



U.S. Department  
of Transportation

**National Highway  
Traffic Safety  
Administration**

400 Seventh Street, S.W.  
Washington, D.C. 20590

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**NATIONAL CAPITOL SYSTEMS, INC.**

**[REDACTED] VIRGINIA [REDACTED]**

**ACCIDENT INVESTIGATION**

**Case No. 90-02**

**[REDACTED] Arkansas**

**Prepared for:**

**U.S. Department of Transportation  
National Highway Traffic Safety Administration  
Washington, D.C. 20590**

NATIONAL CAPITOL SYSTEMS, INC.

AIRBAG INVESTIGATION

CASE NO. 90-02

 ARKANSAS

TECHNICAL REPORT

NATIONAL CAPITOL SYSTEMS, INC.

[REDACTED]  
[REDACTED] Virginia [REDACTED]

AIRBAG INVESTIGATION

CASE NO. 90-02

[REDACTED] ARKANSAS

Contract No. DTHN [REDACTED]

Prepared for:

U.S. Department of Transportation  
National Highway Traffic Safety Administration  
Washington, D.C. 20590



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TECHNICAL REPORT STANDARD TITLE PAGE

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle  Airbag Vehicle Accident Investigation NCSI Case No. 90-02		5. Report Date [REDACTED] 1990	6. Performing Organization Code
		8. Performing Organization Report No.	
7. Author(s) Accident Investigation Team - [REDACTED]		10. Work Unit No.	
9. Performing Organization Name and Address National Capitol Systems, Inc. [REDACTED] [REDACTED]		11. Contract or Grant No. [REDACTED]	
		13. Type of Report and Period Covered Technical Report Accident Date [REDACTED]/90	
12. Sponsoring Agency Name and Address  U.S. Department of Transportation NHTSA - National Highway Traffic Safety Administration		14. Sponsoring Agency Code	
15. Supplementary Notes  1990 Dodge Spirit equipped with a driver's side airbag supplemental restraint system in a right-angle frontal impact with a 1979 Pontiac Grand Prix.			
16. Abstract  See Summary on page 1 of document.			
17. Key Words Airbag deployment Supplemental restraint system		18. Distribution Statement  General Public	
19. Security Classif. (of this report)  None	20. Security Classif. (of this page)  None	21. No. of Pages  75	22. Price

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NCSI In-Depth Accident Investigation Team  
Airbag Deployment Investigation  
[REDACTED] Arkansas  
Case No. 90-02

SUMMARY

This is an in-depth study of an accident involving an airbag equipped 1990 Dodge Spirit and a 1979 Pontiac Grand Prix. The accident occurred on [REDACTED], 1990, at 1424 hours at the intersection of [REDACTED] and [REDACTED] Streets in [REDACTED] Arkansas. In-depth scene and vehicle inspections were conducted on [REDACTED] 1990 by [REDACTED] and [REDACTED].

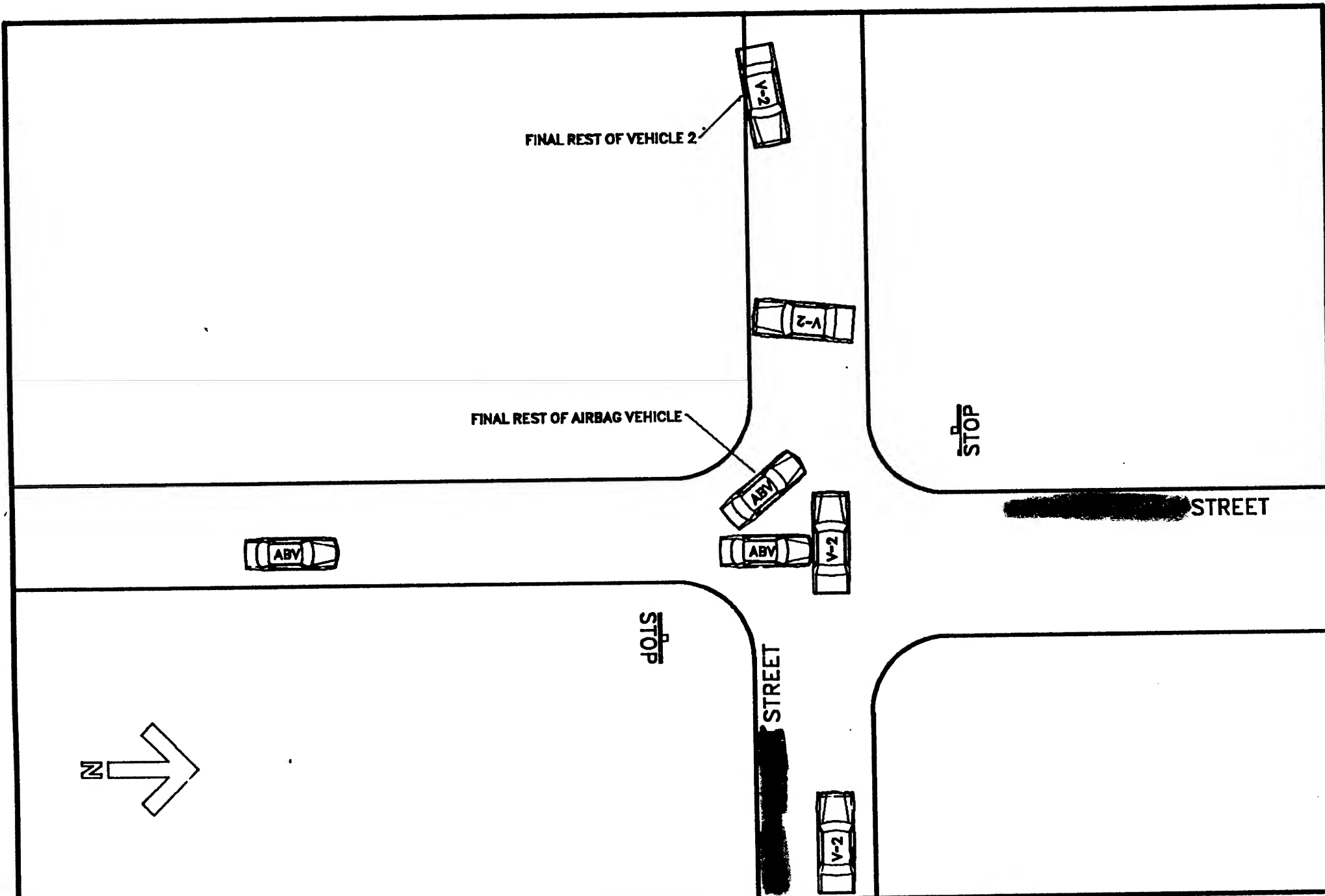
Prior to the accident, the Spirit was traveling north on [REDACTED] Street, approaching the intersection of [REDACTED] Street and [REDACTED] Street. The Grand Prix was traveling west on [REDACTED] Street, approaching the intersection. A stop sign is present at the intersection for traffic traveling north or south on [REDACTED] Street. No controls are present for traffic on [REDACTED] Street. Both streets are two-lane undivided asphalt roadways with posted speed limits of 30 miles per hour.

The Grand Prix entered the intersection and was struck in the left side by the frontal surface of the Spirit in a right-angle impact. After the impact between the vehicles, the Spirit rotated counter-clockwise approximately 60 degrees and came to rest in the intersection. The Grand Prix rotated counter-clockwise approximately 180 degrees and came to rest west of the intersection near the south edge of [REDACTED] Street headed east.

A CDC of 02-FDEW-1 was assigned to the damage to the Spirit, with a maximum residual crush of 4.2 inches. Damaged exterior components included the front bumper, hood, right front fender, grille, and right parking lamp. Damaged interior components included the steering assembly and airbag components. The Spirit was disabled in the crash and towed to a local storage facility. The Grand Prix was driven away following the police investigation of the accident. A CDC of 11-LZEW-2 was assigned to the damage to the Grand Prix, with a maximum residual crush of 6.0 inches.

The driver's side supplemental airbag restraint system of the Spirit was deployed by the frontal impact forces acting on the vehicle. The 19 year-old driver stated that she suffered a laceration to the inside of her lip from her teeth due to the impact of her face with the deployed airbag. She was transported to a local hospital where she was treated and released.

An EDCrash reconstruction using the damage profiles resulted in a speed change (Delta V) of 11.1 miles per hour for the Spirit and 9.5 miles per hour for the Grand Prix.



NHTSA In-Depth Airbag Accident Investigation Case 90-02

Accident Date: [REDACTED] /90 Location: [REDACTED] Arkansas

NATIONAL CAPITOL  
SYSTEMS, INC.

NCSI IN-DEPTH ACCIDENT INVESTIGATION  
AIRBAG DEPLOYMENT INVESTIGATIONFLEET - Private Owner  
LOCATION - [REDACTED] Arkansas  
CASE NO. - 90-02IDENTIFICATION

Location/Street: [REDACTED] and [REDACTED] Streets  
Area/Type: Urban  
Accident Date/Time: [REDACTED] 1990 at 1424 hours  
Notification Date: [REDACTED] 1990  
Investigating Police Agency: [REDACTED] Police Department  
Accident Type: Car/Car Right-angle  
Air Bag Vehicle  
Occupant Injury Severity: Minor (AIS-1)

AMBIENCE

Viewing Conditions: Daylight  
Weather: Clear  
Precipitation: None  
Road Surface: Dry

ROADWAY

Location: [REDACTED] Street at intersection with [REDACTED] Street  
Type: Arterial  
Width: 23'-6"  
Number of Lanes: Two  
Median: None  
Surface Material: Asphaltic aggregate  
Road Edge: No improved shoulders  
Traffic Density: Moderate

ROADWAY, CONTINUED

Coefficient Of Friction: 0.60 (estimated)  
 Vertical Alignment: Level  
 Horizontal Alignment: Straight

TRAFFIC CONTROLS

Signals/Signs: Stop sign for North [REDACTED]  
 Speed Limit: 30 miles per hour

VEHICLES

	<u>Airbag Vehicle</u>	<u>Other Vehicle</u>
Year:	1990	1979
Make:	Dodge	Pontiac
Model:	Spirit	Grand Prix
Body Style:	Four-door	Two-door
V.I.N.:	1B3XA46K9LF*****	2J37Y9P*****
Exterior Color:	Blue metallic	Blue and tan
Odometer Reading:	2277.	134092.
Securiflex Windshield:	Not equipped	
Windshield Damage:	None	
Engine:	4 cyl./2.5L	
Transmission:	3 speed automatic/ column mounted selector	
Steering:	Power assisted	
Brake System:	Power-assisted	
Interior Padding:	Upper and mid-level instrument panel, door panels, armrests, head restraints, sunvisors, upper "A" pillars, steering wheel hub and spokes.	

VEHICLES, CONTINUED

Active Restraint  
System Availability: Three-point lap and  
shoulder belt systems  
for the driver, front  
right occupant, and  
rear outside occu-  
pants. Two-point lap  
belt for rear center  
occupant.

Active Restraint  
System Usage: None

Usage Source: PAR and interviewee

Passive Restraint  
System Usage: Driver airbag

VEHICLE DAMAGE

	<u>Airbag Vehicle</u>	<u>Vehicle #2</u>
Object Struck:	Vehicle #2	Airbag vehicle
Event Number:	One	One
Damage Location:	Front	Left side
CDC:	02-FDEW-01	11-LZEW-02
Tow Status:	Towed due to damage	Driven
Exterior Damage:	<p>The frontal surface of the airbag vehicle impacted the left side of the Grand Prix in an angle impact. Direct damage extended across the entire frontal plane of the Spirit a distance of 55.0 inches. Crush measurements taken across the frontal plane were as follows:</p> <p>C1 = 1.0" C2 = 1.2" C3 = 1.6" C4 = 1.8" C5 = 3.8" C6 = 4.2"</p>	<p>The Grand Prix was struck in the left side by the frontal surface of the Spirit. Direct damage extended along the side of the vehicle for a distance of 97.0 inches and direct plus induced damage length was 115.0 inches. Crush measurements along the side plane were as follows:</p> <p>C1 = 0.0" C2 = 2.0" / Altered C3 = 4.0" / Altered C4 = 6.0" C5 = 0.8" C6 = 0.0"</p>



VEHICLE DAMAGE, CONTINUED

Maximum residual crush was 4.2 inches, located at C6.

Maximum residual crush was 6.0 inches, located at C4.

Damaged exterior components included the front bumper, grille, hood, right front fender, right front parking lamp.

Damaged exterior components included left side door, left rear quarter panel, left rear wheel, and wheel cover.

Interior Damage:

Interior damaged components were the steering assembly and airbag module.

COLLISION SEQUENCE

Pre-crash: At approximately 1424 hours on [REDACTED] 1990, the case vehicle, a 1990 Dodge Spirit equipped with a driver's side supplemental airbag restraint system, was traveling north on the [REDACTED] Street in [REDACTED], Arkansas. The Spirit was approaching the intersection of [REDACTED] and [REDACTED] Streets. In the vicinity of the accident, [REDACTED] Street is a two-lane undivided asphalt roadway, with one southbound travel lane and one northbound travel lane. The other vehicle, a 1979 Pontiac Grand Prix, was traveling west on [REDACTED] Street, approaching the intersection with [REDACTED] Street. [REDACTED] Street is a two-lane undivided asphalt roadway with one eastbound travel lane and one westbound travel lane. A stop sign is present at the intersection for vehicles traveling on [REDACTED] Street. The Spirit entered the intersection as the Grand Prix was passing through the intersection.

Crash: The front of the Spirit struck the left side of the Grand Prix in an angle impact configuration. A CDC of 02-FDEW-01 was assigned to the damage to the Spirit and a CDC of 11-LZEW-3 was assigned to the damage to the Grand Prix from this impact.

Post-Crash: Following impact, the Spirit rotated counter-clockwise approximately 45 degrees and came to rest in the southeast quadrant of the intersection headed northwest. The Grand Prix continued its southward trajectory after impact, rotated counter-clockwise approximately 190 degrees and came to rest west of the intersection near the south edge of [REDACTED]

### COLLISION SEQUENCE, CONTINUED

Street headed east. The impact was of sufficient magnitude to deploy the driver airbag restraint system of the Spirit. The driver stated that she suffered a laceration of her inner lip when her face struck the deployed airbag.

#### Police

Activities: The local police agency was notified of the accident at 1424 hours and a unit arrived on the scene at 1425 hours.

#### Rescue

Activities: The driver of the Spirit was transported to a local clinic where she was treated and released.

### VEHICLE VELOCITY ESTIMATES

An EDCRASH reconstruction of the accident resulted in a speed change (delta V) for the Spirit of 11.1 miles per hour, with a longitudinal delta V of -5.5 miles per hour and a lateral delta V of -9.6 miles per hour. EDCRASH generated values for the speed change of the Grand Prix were 9.5 miles per hour for the total delta V with a longitudinal delta V of -8.2 miles per hour and a lateral delta V of 4.8 miles per hour.

### RELEVANT SAFETY ISSUES

#### Applicable Standards:

FMVSS 208: **Occupant Crash Protection:** The 1990 Dodge Spirit was equipped with a factory installed driver's side supplemental airbag restraint system which was deployed as a result of the frontal impact with the side of the Grand Prix. The system functioned properly and effectively, preventing the driver from possibly impacting the steering assembly and windshield, thereby reducing the severity of the injuries of the unrestrained driver.

HUMAN FACTORS/OCCUPANT DATA

<u>DRIVER DATA</u>	<u>Airbag Vehicle</u>	<u>Other Vehicle</u>
Age:	19	30
Sex:	Female	Male
Height:	66 inches	
Weight:	125 lbs.	
Occupation:	Student	
Active Restraint System Usage:	None	
Usage Source:	Police Accident Report and driver interview	
Vision:	Apparently normal	
Vehicle Familiarity:	Daily	
Route Familiarity:	Daily	
Manner of Leaving Scene:	Friend	
Type of Medical Treatment:	Treated by private physician	
Physical State:	Apparently normal	
Psychological State:	Apparently normal	

DRIVER INJURIES

<u>Injury Description</u>	<u>Severity</u>	<u>Source</u>
Laceration inside lower lip	Minor (AIS-1)	Airbag

Injury Coding

	<u>I.S.S.</u> Body Region	<u>O.I.C.</u> Body Region	<u>Aspect</u>	<u>Lesion</u>	<u>System/ Organ</u>	<u>A.I.S.</u> Severity	<u>Injury Source</u>	<u>Direct/ Indirect Injury</u>
1st	6	F	I	L	D	1	45	2

DRIVER KINEMATICS

The driver stated that she was seated in a normal position and was not restrained by the active three-point lap and shoulder belt system of the Spirit.

The driver's side airbag restraint system deployed as a result of the frontal impact. The driver responded to the impact force by moving forward and to the right relative to the vehicle interior, loading the deployed airbag module with her face and upper torso. She stated that she sustained a laceration of her inner upper lip from the impact force with the deployed airbag. Occupant contact to the airbag was noted during the inspection of the vehicle.

LIST OF ATTACHMENTS

Appendix A: Police Accident Report  
Appendix B: NASS Data Collection Forms  
Appendix C: Airbag Supplement Form  
Appendix D: EDCRASH Output

OTHER SOURCE OF DATA

Driver Interview

SELECTED PRINTS  
NCSI Case No. 90-02

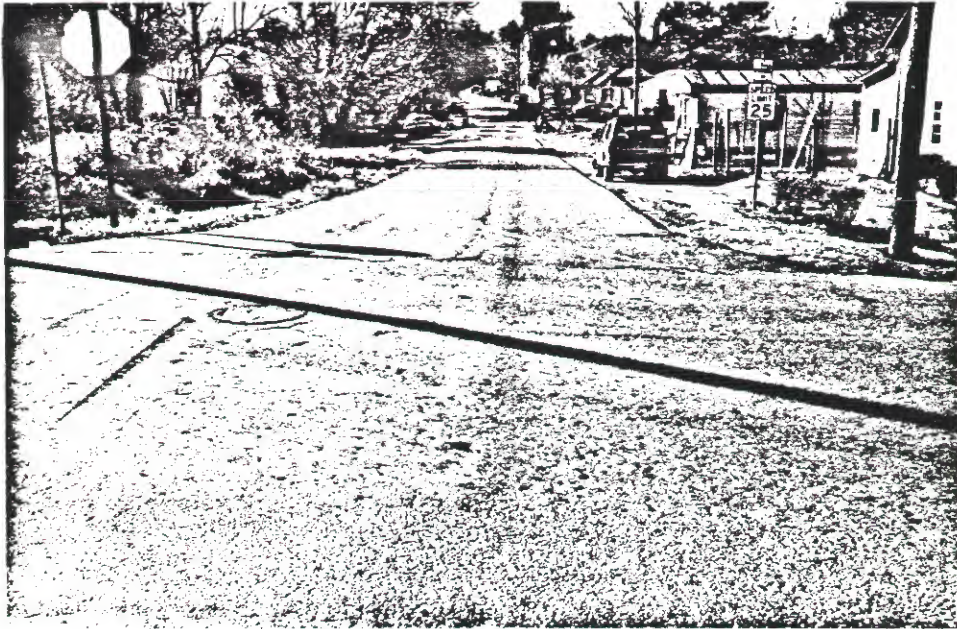


1. Pre-impact travel of the 1990 Dodge Spirit (airbag vehicle)\ north on [REDACTED] Street in [REDACTED] Arkansas.



2. Area of impact of the Spirit with the 1979 Pontiac Grand Prix, and final rest area of the Spirit.





3. Opposite view from beyond impact looking south.



4. Pre-impact travel of the Grand Prix west on Street.



5. Area of impact looking west.



6. Front-right overall view of the 1990 Dodge Spirit.





8. Rear-left overall view of the Spirit.



9. Front left overall view of the Spirit.

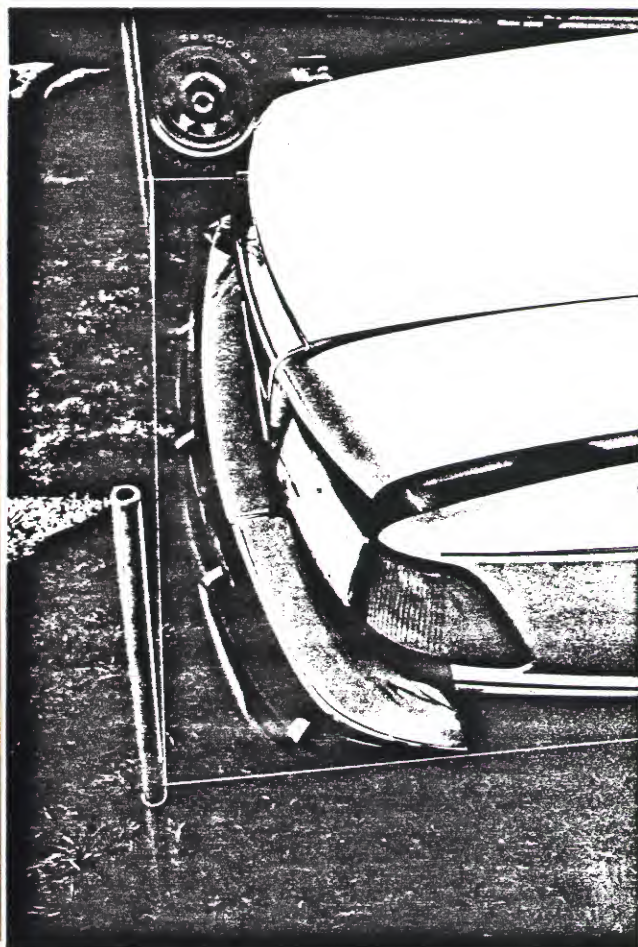




10. Close-up view of frontal impact area.

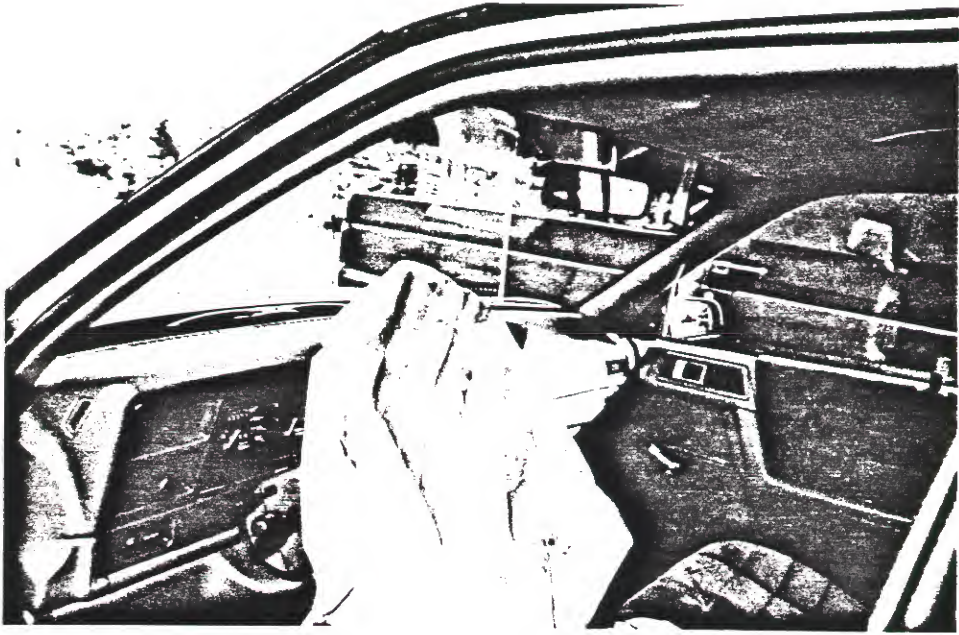


11. Front-right corner view of the Spirit.



12-13. Views down front stringline showing rearward crush of the bumper.





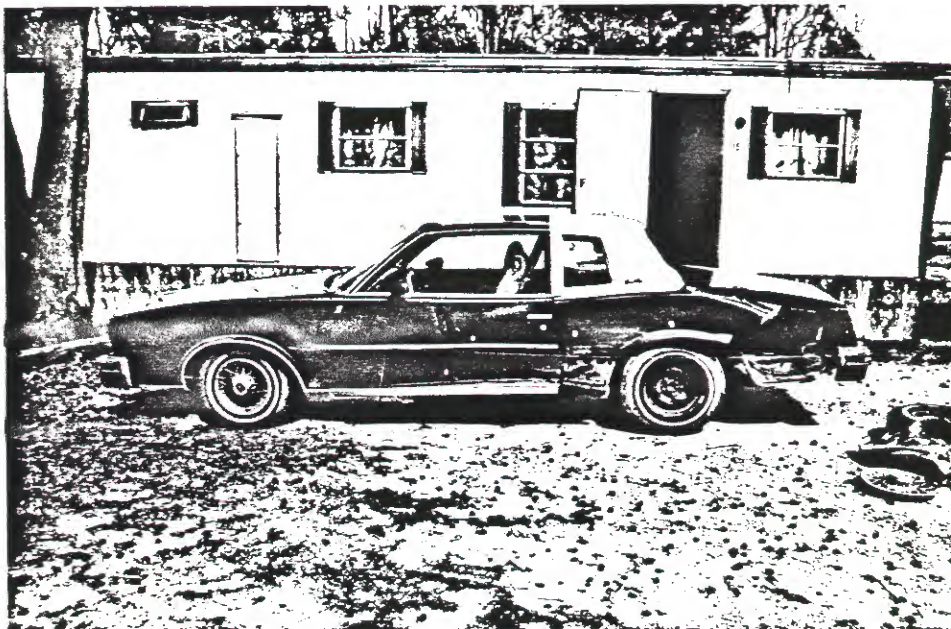
14. Overall view of frontal interior.



15. Overall view of deployed airbag showing occupant contact.



16. Close-up of occupant contact to the deployed airbag.



17. Left side view of the 1979 Pontiac Grand Prix.



19. Closeup view of damage to the Grand Prix.



20. Additional close-up view of left side damage.

SLIDE INDEX  
NCSI CASE NO. 90-02

SCENE INDEX

1. Path of the case vehicle (1990 Dodge Spirit equipped with a driver airbag) into impact. The Spirit was northbound on the [REDACTED] Street in [REDACTED], Arkansas.
2. View of area of impact between the Spirit and a 1979 Pontiac Grand Prix and final rest area of the Spirit.
3. Opposite view from beyond impact and final rest area of the Spirit.
4. Path of the Grand Prix into impact. The Grand Prix was traveling west on [REDACTED] Street.
5. View of impact area looking west.
- 6-7. Path of the Grand Prix from impact to final rest and final rest area of the Grand Prix.
8. Opposite view of impact area looking east.
9. Opposite view from beyond final rest of the Grand Prix.

AIRBAG VEHICLE INDEX

- 10-14. Frontal views of the 1990 Dodge Spirit equipped with a driver airbag restraint system, showing damage from impact with the left side of the Pontiac Grand Prix.
15. Front-right overall view of the Spirit showing damage.
16. Rear-right overall view.
17. Rear-left overall view.
18. Front-left overall view.
- 19-22. Interior views of the Spirit. Occupant contacts were noted to the steering assembly and airbag.
23. View of the outer surface of the deployed airbag module showing occupant contact.
24. Top surface of the airbag - no contacts noted.
25. Bottom surface of the airbag - no contacts noted.
- 26-27. Close-up of occupant contact at approximately 8 o'clock on the outer surface of the deployed airbag.

- 28-29. Closeup views of stroking of the E.A.D's behind the front bumper of the Spirit.

OTHER VEHICLE INDEX

30. Front-left overall view of the 1979 Grand Prix.
- 31-34. Views of the left side showing impact damage and residual crush to the Grand Prix.
35. Rear-left overall view of the Grand Prix.
36. Front-right overall view of the Grand Prix.



NC 9002 #1





NC 9002 #2



NC 9002 #3



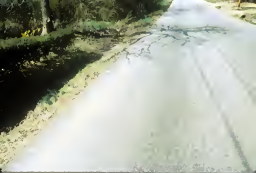
NC9002 #4



NC 8002 #5



NC9002 #8



NC 9002 #7



NC 9002 #8



NC 9002 #9





NC 8002 #10



NC 9002 #11



NC 9002 #12



**NC 9002 #13**  
**Best Available**



NC 9002 #14  
Best Available



NC 9002 #15



NC9002 #16



NC 8002 #17





NC9002 #18



NC9002 #19



NC 9002 #20



NC 9002 #21



NC 8002 #22



NC 9002 #23



NC 8002 #24



NC 9002 #25



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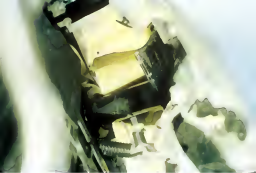
NC 9002 #26  
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NC 9002 #27



NC 9002 #28



NC 9002 #29



NC 9002 #30



NC 9002 #31



NC9002 #32



NC 9002 #33





NC 8002 #34



NC 9002 #35



NC 9002 #36

Appendix A  
Police Accident Report

# ARKANSAS MOTOR VEHICLE TRAFFIC ACCIDENT REPORT

Municipal Use Only	Unit Assigned	Premises	Geo. Code	District	Accident Severity/Injury Code																																			
Incident #					1. <input type="checkbox"/> Fatal Injury 2. <input type="checkbox"/> Incapacitating Injury 3. <input type="checkbox"/> Nonincapacitating Injury 4. <input type="checkbox"/> Possible Injury 5. <input type="checkbox"/> Property Damage only																																			
LOCATION	County	City			Date																																			
	Not in City, but	Distance		from nearest city limit	Month Day Year																																			
	Road/Street of Accident Occurrence	If on numbered Highway/County Road, give #		Section	Log Mile																																			
	At its intersection with	Give # Highway, County Road, Name of City Street as applicable			Time																																			
	Special Reference	Not at intersection, but		Reference Point	AM PM																																			
	(Use only the following as Reference Points) Intersecting Highway, County Road, City Street, Bridge, Railroad Crossing, Overpass, Underpass, Milepost, State Line, County Line, City Limit				No. Vehicles Involved																																			
	Vehicle 79 FONTIAC GRA. 2DOOR Reg. 91 ARK. Vin # 2J37Y9F Year Make Model Body Style Year State Number Owner Address <input type="checkbox"/> Rented to <input type="checkbox"/> Leased to Trailers <input type="checkbox"/> No <input type="checkbox"/> Yes # Units Reg. State. Plate # Cargo <input type="checkbox"/> Not Known <input type="checkbox"/> Hazardous <input type="checkbox"/> Nonhazardous Prior Vehicle Damage NONE NOTED Vehicle Defects NONE NOTED Vehicle Damage as result of Accident <input type="checkbox"/> Disabled <input checked="" type="checkbox"/> Functional <input type="checkbox"/> Other Damage <input type="checkbox"/> No Damage Investigator's Estimated Cost to Repair \$ 900.00 <input checked="" type="checkbox"/> Driven away By OPERATOR To UNKNOWN <input type="checkbox"/> Towed away By				Seating Position 00 Nonoccupant 11 Front Seat L S 12 Front Seat C 13 Front Seat R S 19 Front Seat Not Known 21 Second Seat L S 22 Second Seat C 23 Second Seat R S 29 Second Seat Not Known 31 Third Seat L S 32 Third Seat C 33 Third Seat R S 39 Third Seat Not Known 41 Fourth Seat L S 42 Fourth Seat C 43 Fourth Seat R S 49 Fourth Seat Not Known 50 Deeper Seated Child of 10 or less 51 Open Bed of Truck 52 In Loading Unit 53 Riding on Vehicle Exterior 99 Not Known																																			
OPERATOR & OCCUPANT	Operator Address ARK. Type License: Chauffeur <input type="checkbox"/> Operator <input checked="" type="checkbox"/> Cyclist <input type="checkbox"/> School Bus <input type="checkbox"/> Learner Permit <input type="checkbox"/> Court Permit <input type="checkbox"/> Restricted <input type="checkbox"/> No License <input type="checkbox"/> BAC Test: Yes <input type="checkbox"/> Results If Known Not Tested <input checked="" type="checkbox"/> Refused Test <input type="checkbox"/> Operator Residence: Local <input checked="" type="checkbox"/> Elsewhere in State <input type="checkbox"/> Nonresident of State <input type="checkbox"/> Residence Not Known <input type="checkbox"/> Operator License ARK. State Operator Data DOB Name Address Name Address Name Address Name Address				<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Race</th> <th>Sex</th> <th>Age</th> <th>Inj.</th> <th>Seat Pos.</th> <th>Type</th> <th>Rest.</th> </tr> </thead> <tbody> <tr> <td>W</td> <td>M</td> <td>30</td> <td>4</td> <td>11</td> <td>9</td> <td></td> </tr> <tr> <td>W</td> <td>M</td> <td></td> <td>5</td> <td>13</td> <td>9</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Race	Sex	Age	Inj.	Seat Pos.	Type	Rest.	W	M	30	4	11	9		W	M		5	13	9															
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VEHICLE 2 / OTHER	Vehicle 90 DODGE SPRIT 4DOOR Reg. NONE Vin # Year Make Model Body Style Year State Number Owner Address <input type="checkbox"/> Rented to <input type="checkbox"/> Leased to Trailers <input type="checkbox"/> No <input type="checkbox"/> Yes # Units Reg. State. Plate # Cargo <input type="checkbox"/> Not Known <input type="checkbox"/> Hazardous <input type="checkbox"/> Nonhazardous Prior Vehicle Damage NONE NOTED Vehicle Defects NONE NOTED Vehicle Damage as result of Accident <input checked="" type="checkbox"/> Disabled <input type="checkbox"/> Functional <input type="checkbox"/> Other Damage <input type="checkbox"/> No Damage Investigator's Estimated Cost to Repair \$ 3000.00 <input type="checkbox"/> Driven away By To <input checked="" type="checkbox"/> Towed away By				Occupant Restraint System 0 - None Used 1 - Shoulder Belt 2 - Lap Belt 3 - Lap & Shoulder Belts 4 - Child Safety Seat 5 - Motorcycle Helmet 6 - Deployed Air Bag 7 - Non-Deployed Air Bag 8 - Restraint Used - Type Unknown 9 - Unknown Ejection 0 - Not Ejected 1 - Totally Ejected 2 - Partially Ejected 9 - Unknown																																			
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	Race	Sex	Age	Inj.	Seat Pos.	Type	Rest.																																	
	B	F	19	3	11	9																																		

<b>Veh 1, Damage</b> <input type="checkbox"/> None <input type="checkbox"/> Overturned <input type="checkbox"/> Burned <input type="checkbox"/> Submerged <input type="checkbox"/> Top <input type="checkbox"/> U. Carriage <input type="checkbox"/> Unknown		<input type="checkbox"/> Head On <div style="text-align: center;">→ ←</div> <input type="checkbox"/> Sideswipe <div style="text-align: center;">← →</div> <input type="checkbox"/> Left Turn <div style="text-align: center;">→ ↙</div> <input type="checkbox"/> Left Turn <div style="text-align: center;">← ↙</div>	<input type="checkbox"/> Rear End <div style="text-align: center;">→ →</div> <input type="checkbox"/> Sideswipe <div style="text-align: center;">→ →</div> <input type="checkbox"/> Right Turn <div style="text-align: center;">→ ↘</div> <input type="checkbox"/> Right Turn <div style="text-align: center;">→ ↘</div>	<input checked="" type="checkbox"/> Angle <div style="text-align: center;">→ ↓</div> <input type="checkbox"/> Overturn <div style="text-align: center;">llll →</div> <input type="checkbox"/> Backing <div style="text-align: center;">→ ○</div> <input type="checkbox"/> Other	<b>Veh 2, Damage</b> <input type="checkbox"/> None <input type="checkbox"/> Overturned <input type="checkbox"/> Burned <input type="checkbox"/> Submerged <input type="checkbox"/> Top <input type="checkbox"/> U. Carriage <input type="checkbox"/> Unknown	
Color: _____ Body Style: <b>2 DOOR</b> Point of Initial Contact: <b>LEFT SIDE</b>				Color: <b>BLUE</b> Body Style: <b>4 DOOR</b> Point of Initial Contact: <b>FRONT</b>		

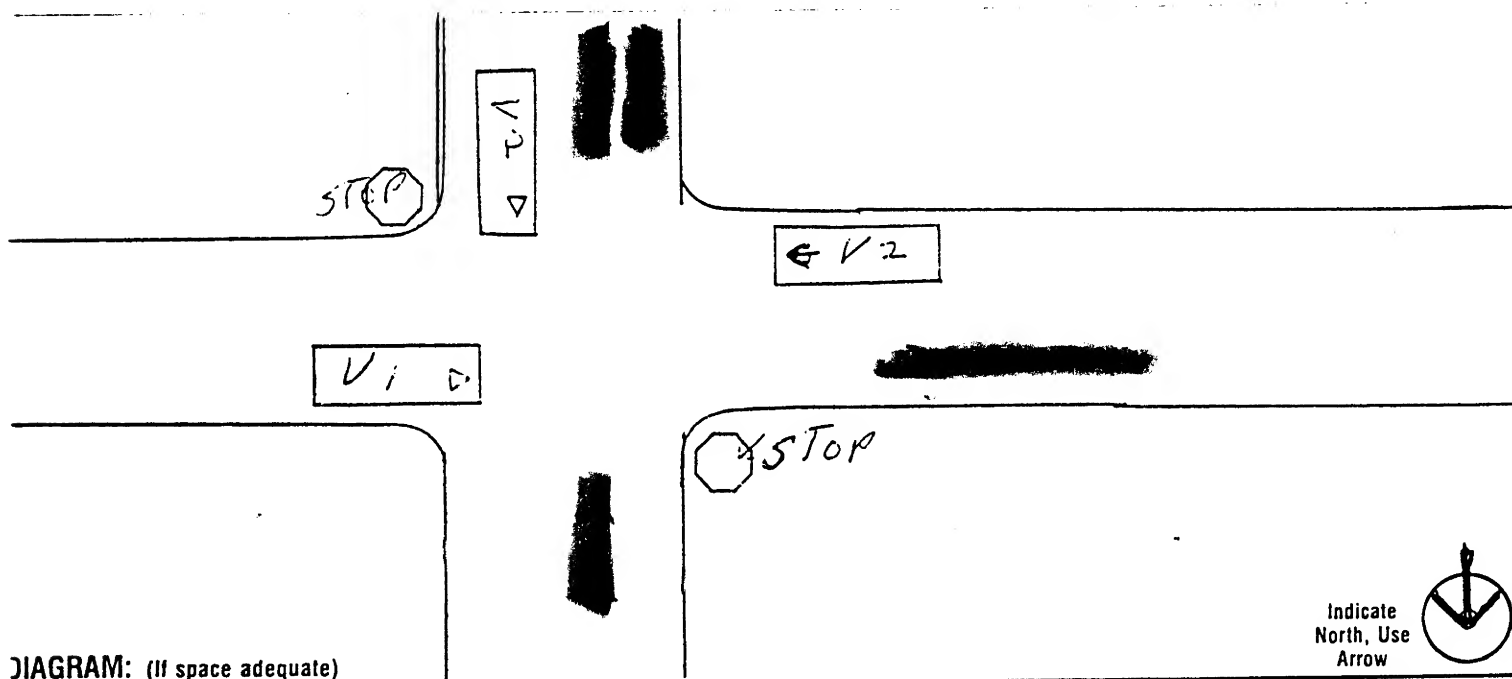
**INVESTIGATOR DESCRIPTION: (Refer to vehicle by operator)**

OPERATOR OF VEH. 1 STATED THAT HE WAS TRAVELING WEST ON [REDACTED] ST.  
 AND THAT VEH. 2 JUST CAME OUT OF [REDACTED] ST. AND HIT HIM.

OPERATOR OF VEH. 2 STATED THAT SHE THAUGHT VEH. 1 WAS GOING TO TURN INTO  
 [REDACTED] ST. SO SHE PULL ON OUT OF [REDACTED] ST AND STRUCK VEH. 1.

VEH. 2 WERE GOING NORTH AND FAIL TO YIELD AT STOP SIGN.

VEH. 1 WAS KNOCK AROUND AND HEADED BACK EAST.



**DIAGRAM: (If space adequate)**

Arrest: [REDACTED]	Charge: <b>FAIL TO YIELD</b>	Summons #: [REDACTED]
Arrest: _____	Charge: _____	Summons #: _____
Time notified of accident: <b>2:24 P. M.</b>	Time arrived: <b>2:25 P. M.</b>	Date: <b>[REDACTED] 190</b>
The data in this report reflects my best judgement and knowledge based on information available to me.		Photos: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Investigator: [REDACTED]	Name and ID Number: [REDACTED]	Department: [REDACTED] Date Submitted: <b>190</b>

Atmospheric Conditions  
0 No Adverse Conditions  
1 Rain 2 Sleet  
3 Snow 4 Fog  
5 High Winds  
6 Smoke 7 Smog 8 Dust  
9 Other  
10 Not Known  
Temperature  
Light Conditions  
1 Daylight 2 Dark 3 Dawn 4 Dusk  
5 Dark but lighted  
6 Dark, light not functioning  
7 Not Known  
Accident Locale  
1 Rural 2 Urban  
3 Not Known  
Roadway Surface Condition  
1 Dry 2 Wet 3 Ice  
4 Sand 5 Dirt 6 Oil  
7 Other  
8 Not Known  
Road System  
Speed Limit 30 Posted Yes No  
1 Interstate 2 U.S. Hwy. 3 State Hwy.  
4 County Road 5 City Street 6 Other  
7 Not Known  
Road Surface Type  
1 Concrete 2 Asphalt  
3 Gravel 4 Dirt  
5 Other  
6 Not Known  
Roadway Alignment/Profile  
1 Straight 1 Level  
2 Curve 2 Grade  
3 Not Known 3 Hillcrest  
4 Sag  
5 Not Known  
Construction/Maintenance Zone  
1 Yes 2 No  
3 Highway Const 4 Utility 5 Other  
Protected 6 No 7 Yes How  
8 Reduced Road Width  
9 Road Repair 10 Maintenance  
Trafficway Flow 2  
1 Divided 2 Not Divided  
3 Divided by Median  
4 Divided by Other Barrier  
5 Divided by Temporary Barrier  
6 One Way Traffic  
7 Not Known  
Roadway Conditions  
0 No Adverse Conditions  
1 Obstruction, Warning  
2 Obstruction, No Warning  
3 Loose Materials on Surface  
4 Holes 5 Ruts 6 Bumps  
7 Defective Shoulders  
8 No Markings  
9 Other Defects  
10 Defects Not Known  
Relation to Junction  
0 Non-Junction  
1 Intersection 2 Intersection Related  
3 Driveway 4 Alley  
5 Exit Lane 6 Entrance Lane  
7 RR Crossing  
8 Crossover Lane  
9 Other  
10 Not Known

Traffic Controls  
0 No Controls Present  
1 Flashing Beacon  
2 Traffic Signal  
3 Stop Sign 4 Yield Sign  
5 RR Crossing with Gates & Lights  
6 RR Crossing, Flashing Lights Only  
7 RR Crossing, Crossbuck Only  
8 School Zone, Children Present  
9 Pedestrian Signal  
10 Lane Markings  
11 Other Controls  
12 Controls Not Known  
13 Device Not Functioning  
14 Device Functioning Properly  
15 Device Functioning Improperly  
Vehicle Travel Direction  
V1 V2  
N S E W  
Vehicle Action Vision Obscurement  
V1 V2 V1 V2  
1 Going Straight 0 Vision not obscured  
2 Negotiating Curve 1 Rain  
3 Slowing 2 Snow  
4 Stopped in Traffic Lane 3 Sleet  
5 Merging 4 Fog  
6 Enter, Parked Position 5 Glare  
7 Exit, Parked Position 6 Sunlight  
8 Parked 7 Headlights  
9 Turning Right 8 Building  
10 Turning Right on Red 9 Billboard  
11 Turning Left 10 Trees  
12 Turning Left on Red 11 Shrubs  
13 Making U Turn 12 Other Vegetation  
14 Backing 13 Moving Vehicle  
15 Avoiding Vehicle 14 Parked Vehicle  
16 Avoiding Pedestrian 15 Ice on Windshield  
17 Avoiding Animal 16 Fog on Windshield  
18 Avoiding Other Object 17 Broken Windshield  
19 Passing 18 Dirty Windshield  
20 Changing Lanes 19 Other  
21 Other Action 20 Not Known  
22 Action Not Known  
Contributing Factors  
OPR 1 OPR 2  
0 No Contributing Factor  
1 Too Fast For Conditions  
2 Fail to Yield  
3 Alcohol  
4 Drugs  
5 Disregarded Stop Sign  
6 Disregarded Yield Sign  
7 Disregarded Traffic Signal  
8 Wrong Side Road  
9 Wrong Way — 1 Way Traffic  
10 Followed Too Close  
11 Illegal Right Turn  
12 Illegal Left Turn  
13 Illegal Lane Change  
14 Illegal Passing  
15 Prohibited U Turn  
16 Operating Defective Lights  
17 Operating Defective Brakes  
18 Operating Other Defective Equipment  
19 Unsafe Backing  
20 Other Factor  
21 Factor Not Known

Fire Occurrence  
0 No Fire Occurrence  
V1 1 Fire Occurrence, Result of Impact  
V2 2 Fire Occurrence, Result of Impact  
First Harmful Event  
Non-Collision Collision With  
10 Overturn 1 Pedestrian  
11 Fire 12 Explosion 2 Pedalcycle  
13 Immersion 3 Railway Train  
14 Gas Inhalation 4 MV in Transport  
15 Fell from Vehicle 5 MV in Other Roadway  
16 Injured in Vehicle 6 Parked Motor Vehicle  
17 Other Non-Collision 7 Animal  
8 Other Object Not Fixed  
Collision with Fixed Object  
20 Identify Object  
First Harmful Event Occurred  
1 On Roadway 3 Median  
2 Shoulder 5 Outside Trafficway  
4 Roadside  
6 Location Unknown  
Most Harmful Event  
V1 M. V. IN TRANSPORT  
Identify Event  
V2 M. V. IN TRANSPORT  
Identify Event  
Pedestrian Location  
1 In Crosswalk 6 No Crosswalk  
2 Intersection 7 Non-Intersection  
3 On Roadway 8 Sidewalk  
4 On Road Shoulder 9 Location Not Known  
5 Bike Path 10 No Pedestrian  
11 Other Location  
Pedestrian Action  
0 Not Visible  
1 Crossing Road, No Intersection  
2 Crossing at Intersection  
3 Walking with Traffic  
4 Walking Against Traffic  
5 Playing 6 Lying in Roadway  
7 Working 8 Standing in Roadway  
9 No Pedestrian  
10 Other Ped. Action  
11 Action Not Known  
EMS Time Notified  
EMS Time Arrived  
Injured Transported to  
Transported by  
INSURANCE CARRIER  
V1  
V2

Damage to Property  
Other Than Vehicle

Describe Property

Owner of Property

Name

Address

Estimate of Damage

Notified of Damage

Name

Address

Time

Date

Witnesses

Name

Address

Age

Sex

Witnesses

Name

Address

Age

Sex

## Appendix B

### NASS Data Collection Forms





U.S. Department of Transportation  
National Highway Traffic Safety  
Administration

## CASE SUMMARY

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

PSU NCST CASE NO. 90-02 TYPE OF ACCIDENT CAR/CAR RT ANGLE IMPACT

### A. DESCRIPTION OF THE ACCIDENT SEQUENCE AND ACCIDENT PECULIARITIES

(Provide a summary of the accident sequence as well as any particular event of the accident that is noteworthy. Injury mechanism and vehicle crashworthiness is the focus, not driver culpability. Do not include any personal identifiers. Use reverse side if needed.)

SEE SUMMARY PAGE 1

### B. VEHICLE PROFILE(S)

Vehicle No.	Class of Vehicle	Year/Make/Model	Most Severe Damage		Component Failure
			Damage Plane	Severity Description	
1	COMPACT	90 DODGE SPIRIT	F	LIGHT	NONE
2	INTERMEDIATE	791 GRAND PRIX	L	MODERATE	NONE

### C. PERSON PROFILE(S)

Vehicle No.	Person Role	Seat Position	Restraint Use	Most Severe Injury			
				Body Region	Lesion	AIS	Injury Source
1	D	FL	AIRBAG	F	L	1	AIRBAG
2	D	FL	NONE	NONE	—	—	—
2	P	FR	NONE	NONE	—	—	—

DO NOT SANITIZE THIS FORM



U.S. Department of Transportation  
National Highway Traffic Safety  
Administration

# ACCIDENT FORM

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

<p>1. Primary Sampling Unit Number <u>NCSE</u></p> <p>2. Case Number - Stratum <u>90-02</u></p>	<p><b>SPECIAL STUDIES INDICATORS</b></p> <p>Check (✓) each special study (SS12-SS16 below) that has been completed; code 1 for the checked special studies and 0 for the special studies not checked.</p> <p>6. <u>    </u> SS12 Not Active <u>    0    </u></p> <p>7. <u>    </u> SS13 AOPS <u>    </u></p> <p>8. <u>    </u> SS14 <u>    </u></p> <p>9. <u>    </u> SS15 <u>    </u></p> <p>10. <u>    </u> SS16 <u>    </u></p>					
<p><b>IDENTIFICATION</b></p>						
<p>3. Number of General Vehicle Forms Submitted <u>02</u></p> <p>4. Date of Accident (Month, Day, Year) <u>    </u> <u>9</u> <u>0</u></p> <p>5. Time of Accident <u>1424</u></p> <p>Code reported military time of accident.</p> <p>NOTE: Midnight = 2400 Unknown = 9999</p>	<p><b>NUMBER OF EVENTS</b></p> <p>11. Number of Recorded Events in This Accident <u>01</u></p> <p>Code the number of events which occurred in this accident.</p>					
<p><b>ACCIDENT EVENTS</b></p>						
<p>For each event that occurred in the accident, code the lowest numbered vehicle in the left columns and the other involved vehicle or object on the right.</p>						
<p>Accident Event Sequence Number</p>	<p>Vehicle Number</p>	<p>Class of Vehicle</p>	<p>General Area of Damage</p>	<p>Vehicle Number or Object Contacted</p>	<p>Class of Vehicle</p>	<p>General Area of Damage</p>
12. <u>01</u>	13. <u>01</u>	14. <u>02</u>	15. <u>F</u>	16. <u>02</u>	17. <u>03</u>	18. <u>L</u>
19. <u>02</u>	20. <u>    </u>	21. <u>    </u>	22. <u>    </u>	23. <u>    </u>	24. <u>    </u>	25. <u>    </u>
26. <u>03</u>	27. <u>    </u>	28. <u>    </u>	29. <u>    </u>	30. <u>    </u>	31. <u>    </u>	32. <u>    </u>
33. <u>04</u>	34. <u>    </u>	35. <u>    </u>	36. <u>    </u>	37. <u>    </u>	38. <u>    </u>	39. <u>    </u>
40. <u>05</u>	41. <u>    </u>	42. <u>    </u>	43. <u>    </u>	44. <u>    </u>	45. <u>    </u>	46. <u>    </u>
<p>IF GREATER THAN FIVE EVENTS, CONTINUE CODING ON THE ACCIDENT EVENTS SUPPLEMENT</p>						

CODES FOR CLASS OF VEHICLE	CODES FOR GENERAL AREA OF DAMAGE (GAD)	
(00) Not a motor vehicle (01) Subcompact/mini (wheelbase - 100 ") (02) Compact (wheelbase - 100 " - 104 ") (03) Intermediate (wheelbase - 105 " - 109 ") (04) Full size (wheelbase - 110 " - 114 ") (05) Largest (wheelbase - 115 ") (09) Unknown passenger car size (11) Short utility vehicle (12) Truck based utility (· 10,000 lbs GVWR) (13) Passenger van (· 10,000 lbs GVWR) (14) Other van (· 10,000 lbs GVWR) (15) Pickup truck (· 10,000 lbs GVWR) (18) Other truck (· 10,000 lbs GVWR) (19) Unknown light truck type (20) School bus (21) Other bus (22) Truck (· 10,000 lbs GVWR) (23) Tractor without trailer (24) Tractor-trailer(s) (25) Motored cycle (28) Other vehicle (99) Unknown	CDC APPLICABLE AND OTHER VEHICLES	TDC APPLICABLE VEHICLES
	(0) Not a motor vehicle (N) Noncollision (F) Front (R) Right side (L) Left side (B) Back (T) Top (U) Undercarriage (9) Unknown	(0) Not a motor vehicle (N) Noncollision (F) Front (R) Right side (L) Left side (B) Back of unit with cargo area (rear of trailer or straight truck) (D) Back (rear of tractor) (C) Rear of cab (V) Front of cargo area (T) Top (U) Undercarriage (9) Unknown
<b>CODES FOR VEHICLE NUMBER OR OBJECT CONTACTED</b>		
(01-30) - Vehicle number  Noncollision (31) Overturn - rollover (32) Fire or explosion (33) Jackknife (34) Other intraunit damage (specify): _____ (35) Noncollision injury (38) Other noncollision (specify): _____ (39) Noncollision - details unknown  Collision with Fixed Object (41) Tree (· 4 inches in diameter) (42) Tree (· 4 inches in diameter) (43) Shrubbery or bush (44) Embankment  (45) Breakaway pole or post (any diameter)  Nonbreakaway Pole or Post (50) Pole or post (· 4 inches in diameter) (51) Pole or post (· 4 but · 12 inches in diameter) (52) Pole or post (· 12 inches in diameter) (53) Pole or post (diameter unknown)  (54) Concrete traffic barrier (55) Impact attenuator (56) Other traffic barrier (specify): _____	(57) Fence (58) Wall (59) Building (60) Ditch or culvert (61) Ground (62) Fire hydrant (63) Curb (64) Bridge (68) Other fixed object (specify): _____ (69) Unknown fixed object  Collision with Nonfixed Object (71) Motor vehicle not in-transport (72) Pedestrian (73) Cyclist or cycle (74) Other nonmotorist or conveyance (specify): _____ (75) Vehicle occupant (76) Animal (77) Train (78) Trailer, disconnected in transport (88) Other nonfixed object (specify): _____ (89) Unknown nonfixed object  (98) Other event (specify): _____ (99) Unknown event or object	

## ACCIDENT COLLISION MEASUREMENT TABLE

**NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM**

[illegible]



U.S. Department of Transportation  
National Highway Traffic Safety  
Administration

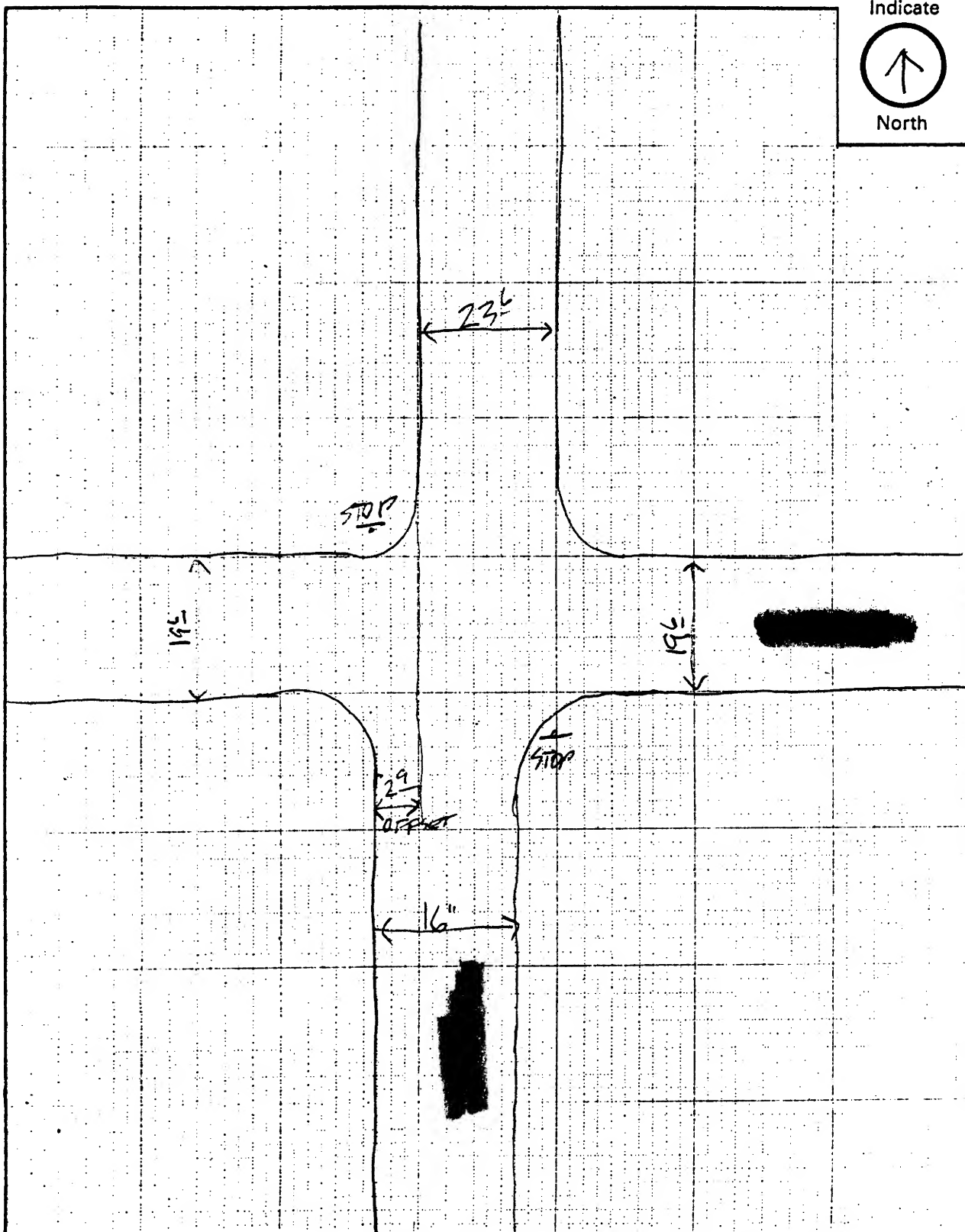
NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

## ACCIDENT COLLISION DIAGRAM

PSU No. NC 51

Case Number—Stratum 9 0-0 2

Indicate





US Department of Transportation  
National Highway Traffic Safety  
Administration

## GENERAL VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

<p>1. Primary Sampling Unit Number <u>NCST</u></p> <p>2. Case Number—Stratum <u>90-02</u></p> <p>3. Vehicle Number <u>01</u></p> <p style="text-align: center;"><b>VEHICLE IDENTIFICATION</b></p> <p>4. Vehicle Model Year <u>90</u> Code the last two digits of the model year (99) Unknown</p> <p>5. Vehicle Make (specify): <u>07</u> <u>DODGE</u> Applicable codes are found in your NASS CDS Data Collection, Coding, and Editing Manual. (99) Unknown</p> <p>6. Vehicle Model (specify): <u>019</u> <u>SPIRIT</u> Applicable codes are found in your NASS CDS Data Collection, Coding, and Editing Manual. (999) Unknown</p> <p>7. Body Type <u>04</u> Note: Applicable codes are found on the back of this page.</p> <p>8. Vehicle Identification Number <u>LB3XA46K9L</u> Left justify; Slash zeros and letter Z (0 and Z) No VIN—Code all zeros Unknown—Code all nine's</p> <p style="text-align: center;"><b>OFFICIAL RECORDS</b></p> <p>9. Police Reported Vehicle Disposition <u>1</u> (0) Not towed due to vehicle damage (1) Towed due to vehicle damage (9) Unknown</p> <p>10. Police Reported Travel Speed <u>99</u> Code to the nearest mph (NOTE: 00 means less than 0.5 mph) (97) 96.5 mph and above (99) Unknown</p>	<p>11. Police Reported Alcohol or Drug Presence <u>0</u> (0) Neither alcohol nor drugs present (1) Yes (alcohol present) (2) Yes (drugs present) (3) Yes (alcohol and drugs present) (4) Yes (alcohol or drugs present—specifics unknown) (7) Not reported (8) No driver present (9) Unknown</p> <p>12. Alcohol Test Result for Driver <u>96</u> Code actual value (decimal implied before first digit—0.xx) (95) Test refused (96) None given (97) AC test performed, results unknown (98) No driver present (99) Unknown Source _____</p> <p style="text-align: center;"><b>ACCIDENT RELATED</b></p> <p>13. Speed Limit <u>30</u> (00) No statutory limit Code posted or statutory speed limit (99) Unknown</p> <p>14. Attempted Avoidance Maneuver <u>01</u> (00) No impact (01) No avoidance actions (02) Braking (no lockup) (03) Braking (lockup) (04) Braking (lockup unknown) (05) Releasing brakes (06) Steering left (07) Steering right (08) Braking and steering left (09) Braking and steering right (10) Accelerating (11) Accelerating and steering left (12) Accelerating and steering right (97) No driver present (98) Other action (specify): _____ (99) Unknown</p> <p>15. Accident Type <u>BB</u> Applicable codes may be found on the back of page two of this field form (00) No impact Code the number of the diagram that best describes the accident circumstance (98) Other accident type (specify): _____ (99) Unknown</p>
<p>**** STOP HERE IF GV07 DOES NOT EQUAL 01-49 ****</p>	

## CODES FOR BODY TYPE

## CDS APPLICABLE VEHICLES

## Automobiles

- (01) Convertible (excludes sun-roof, t-bar)
- (02) 2-door sedan, hardtop, coupe
- (03) 3-door/2-door hatchback
- (04) 4-door sedan, hardtop
- (05) 5-door/4-door hatchback
- (06) Station wagon (excluding van and truck based)
- (08) Other automobile type (specify): \_\_\_\_\_

- 
- (09) Unknown automobile type

## Automobile Derivatives

- (10) Auto based pickup (includes El Camino, Caballero, Ranchero, and Brat)
- (11) Auto based panel (cargo station wagon, includes auto based ambulance/hearse)
- (12) Large limousine—more than four side doors or stretched chassis

## Utility Vehicles

- (13) Short utility—not truck based (includes Jeep CJ-5, Jeep CJ-7, Renegade, Landrover, Pre-78 Bronco, Landcruiser, Thing)
- (14) Truck based utility (2-door; includes Blazer, Bronco—78 on, Bronco II, Jimmy, Ramcharger, Cherokee, Trailduster, Scout)

Van Based Light Trucks ( $\leq 10,000$  lbs GVWR)

- (20) Minivan (Lumina APV, Astro, Caravan, Plymouth Vista, Aerostar, Safari, Voyager [84 and after], Dodge Vista, Mini Ram Van, Toyota Cargo Van, Toyota Van, Vanagon, VW Bus, Kombi)
- (21) Standard van (Sportvan, Chevy Van, Club Wagon, Ford Econoline, Ram Van, Chateau, Ram Wagon, Vandura, Rally, Voyager [83 and before], Beauville, Sportsman)
- (28) Other van type (specify): \_\_\_\_\_
- (29) Unknown van type

## Light Conventional Trucks (Pickup Style Cab, 10,000 lbs GVWR)

- (30) Compact pickup (<4,500 lbs. GVWR, S-10, LUV, Ram 50, Rampage, Courier, Ranger, S-15 Pup, Mazda Pickup, Mitsubishi Truck, Nissan Pickup, Arrow Pickup, Scamp, Toyota Pickup, VW Pickup)
- (31) Standard pickup (4,500 to 10,000 lbs. GVWR, C10 - C30, K10 - K30, T10, D100 - D350, W150 - W350, F100 - F350, Comanche, J10 - J30, Dakota)
- (32) Pickup with slide-in camper
- (33) Truck based station wagon (4-door; includes Suburban, Travelall, Wagoneer)
- (34) Light truck based suburban limousine
- (35) Convertible pickup
- (39) Unknown (pickup style) light conventional truck type

Other Light Trucks ( $\leq 10,000$  lbs GVWR)

- (40) Cab chassis based (includes rescue vehicle, light stake, dump, and tow truck)
- (41) Truck based panel
- (42) Light truck based motorhome (chassis mounted)
- (47) Other light conventional truck type (not a pickup) (specify): \_\_\_\_\_
- (48) Unknown other light truck type (not a pickup)
- (49) Unknown light vehicle type (automobile, van, or light truck)

## OTHER VEHICLES

## Buses (Excludes Van Based)

- (50) School bus (designed to carry students, not cross country or transit)
- (58) Other bus type (e.g., transit, intercity, bus based motorhome) (specify): \_\_\_\_\_

- 
- (59) Unknown bus type

## Medium/Heavy Trucks (&gt;10,000 lbs GVWR)

- (60) Step van
- (61) Single unit straight truck (10,000 lbs < GVWR  $\leq 26,000$  lbs)
- (62) Single unit straight truck (>26,000 lbs GVWR)
- (63) Medium/heavy truck based motorhome
- (64) Truck-tractor with no cargo trailer
- (65) Truck-tractor pulling one trailer
- (66) Truck-tractor pulling two or more trailers
- (67) Truck-tractor (unknown if pulling trailer)
- (68) Unknown medium/heavy truck type
- (69) Unknown truck type (light/medium/heavy)

## Motored Cycles (Does Not Include All-Terrain Vehicles/Cycles)

- (70) Motorcycle
- (71) Moped (motorized bicycle)
- (78) Other motored cycle type (minibike, motorscooter) (specify): \_\_\_\_\_

- 
- (79) Unknown motored cycle type

## Other Vehicles

- (80) ATV (All-Terrain Vehicle) and ATC (All-Terrain Cycle)
- (88) Other vehicle type (specify): \_\_\_\_\_

- 
- (99) Unknown body type

## National Accident Sampling System – Crashworthiness Data System: General Vehicle Form

Page 2

**OCCUPANT RELATED**16. Driver Presence in Vehicle 1

- (0) Driver not present  
(1) Driver present  
(9) Unknown

17. Number of Occupants This Vehicle 01

- (00-96) Code actual number of occupants for this vehicle  
(97) 97 or more  
(99) Unknown

18. Number of Occupant Forms Submitted 01**VEHICLE WEIGHT ITEMS**19. Vehicle Curb Weight 02,800

- 27 Code weight to nearest 100 pounds.  
(010) Less than 1050 pounds  
(135) 13,500 lbs or more  
(999) Unknown

Source: 20. Vehicle Cargo Weight 0000

- 0 Code weight to nearest 100 pounds.  
(00) Less than 50 pounds  
(97) 9,650 lbs or more  
(99) Unknown

**RECONSTRUCTION DATA**21. Towed Trailing Unit 0

- (0) No towed unit  
(1) Yes—towed trailing unit  
(9) Unknown

22. Documentation of Trajectory Data for This Vehicle 0

- (0) No  
(1) Yes

23. Post Collision Condition of Tree or Pole (for Highest Delta V) 0

- (0) Not collision (for highest delta V) with tree or pole  
(1) Not damaged  
(2) Cracked/sheared  
(3) Tilted <45 degrees  
(4) Tilted ≥45 degrees  
(5) Uprooted tree  
(6) Separated pole from base  
(7) Pole replaced  
(8) Other (specify): \_\_\_\_\_

(9) Unknown

24. Rollover 0

- (0) No rollover (no overturning)

Rollover (primarily about the longitudinal axis)

- (1) Rollover, 1 quarter turn only  
(2) Rollover, 2 quarter turns  
(3) Rollover, 3 quarter turns  
(4) Rollover, 4 or more quarter turns (specify): \_\_\_\_\_

- (5) Rollover—end-over-end (i.e., primarily about the lateral axis)

- (9) Rollover (overturn), details unknown

**OVERRIDE/UNDERRIDE (THIS VEHICLE)**25. Front Override/Underride (this vehicle) 026. Rear Override/Underride (this vehicle) 0

- (0) No override/underride, or not an end-to-end impact

Override (see specific CDC)

- (1) 1st CDC  
(2) 2nd CDC  
(3) Other not automated CDC (specify): \_\_\_\_\_

Underride (see specific CDC)

- (4) 1st CDC  
(5) 2nd CDC  
(6) Other not automated CDC (specify): \_\_\_\_\_

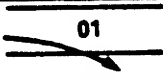
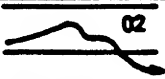

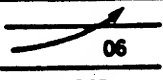
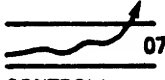
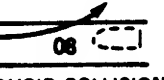
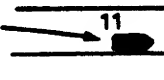
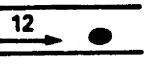

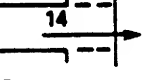
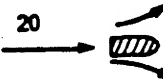
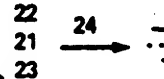
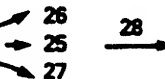
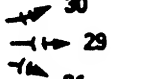
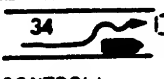
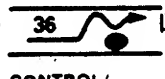

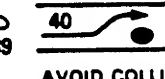
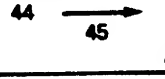
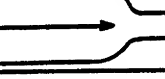
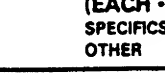

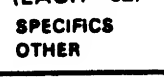
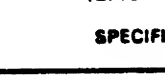





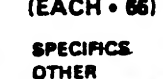
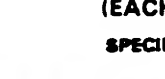



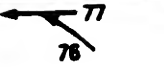

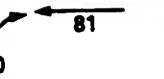



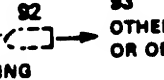

- (7) Medium/heavy truck override  
(9) Unknown

**HEADING ANGLE AT IMPACT FOR HIGHEST DELTA V**

Values: (000)-(359) Code actual value  
(997) Noncollision  
(998) Impact with object  
(999) Unknown

27. Heading Angle for This Vehicle 36028. Heading Angle for Other Vehicle 270



Category	Configuration	ACCIDENT TYPES (Includes Intent)				
I. Single Driver	A. Right Roadside Departure	 01 DRIVE OFF ROAD	 02 CONTROL/ TRACTION LOSS	 03 AVOID COLLISION WITH VEH., PED., ANIM.	04 SPECIFICS OTHER	06 SPECIFICS UNKNOWN
	B. Left Roadside Departure	 06 DRIVE OFF ROAD	 07 CONTROL/ TRACTION LOSS	 08 AVOID COLLISION WITH VEH., PED., ANIM.	09 SPECIFICS OTHER	10 SPECIFICS UNKNOWN
	C. Forward Impact	 11 PARKED VEH.	 12 STA. OBJECT	 13 PEDESTRIAN/ ANIMAL	 14 END DEPARTURE	15 SPECIFICS OTHER 16 SPECIFICS UNKNOWN
II. Same Trafficway Same Direction	D. Rear-End	 20 STOPPED 21, 22, 23	 22 SLOWER 25, 26, 27	 24 DECEL. 28, 30, 31	 26 AVOID COLLISION WITH VEH.	(EACH • 32) SPECIFICS OTHER (EACH • 33) SPECIFICS UNKNOWN
	E. Forward Impact	 34 CONTROL/ TRACTION LOSS	 36 CONTROL/ TRACTION LOSS	 38 AVOID COLLISION WITH VEH.	 40 AVOID COLLISION WITH OBJECT	(EACH • 42) SPECIFICS OTHER (EACH • 43) SPECIFICS UNKNOWN
	F. Sideswipe Angle	 44 45 46 47	 46 45 47	 48 45 47	(EACH • 48) SPECIFICS OTHER (EACH • 49) SPECIFICS UNKNOWN	(EACH • 49) SPECIFICS UNKNOWN
III. Same Trafficway Opposite Direction	G. Head-On	 50 LATERAL MOVE	 51 (EACH • 52) SPECIFICS OTHER	 53 (EACH • 53) SPECIFICS UNKNOWN		
	H. Forward Impact	 54 CONTROL/ TRACTION LOSS	 56 CONTROL/ TRACTION LOSS	 58 AVOID COLLISION WITH VEH.	 60 AVOID COLLISION WITH OBJECT	(EACH • 62) SPECIFICS OTHER (EACH • 63) SPECIFICS UNKNOWN
	I. Sideswipe Angle	 64 LATERAL MOVE	 65 (EACH • 66) SPECIFICS OTHER	 67 (EACH • 67) SPECIFICS UNKNOWN		
IV. Change Trafficway Vehicle Turning	J. Turn Across Path	 68 INITIAL OPPOSITE DIRECTIONS	 71 INITIAL SAME DIRECTIONS	 73 INITIAL SAME DIRECTIONS	(EACH • 74) SPECIFICS OTHER (EACH • 75) SPECIFICS UNKNOWN	
	K. Turn Into Path	 77 TURN INTO SAME DIRECTION	 79 TURN INTO SAME DIRECTION	 81 TURN INTO OPPOSITE DIRECTIONS	 83 TURN INTO OPPOSITE DIRECTIONS	(EACH • 84) SPECIFICS OTHER (EACH • 85) SPECIFICS UNKNOWN
V. Intersecting Paths (Vehicle Damage)	L. Straight Paths	 87 86	 89 88	(EACH • 90) SPECIFICS OTHER	(EACH • 91) SPECIFICS UNKNOWN	
VI. Miscellaneous	M. Backing Etc.	 92 BACKING VEH.	 93 OTHER VEH. OR OBJECT	98 Other Accident Type 99 Unknown Accident Type 00 No Impact		

## National Accident Sampling System—Crashworthiness Data System: General Vehicle Form

Page 3

29. Basis for Total Delta V (Highest) 1

## Delta V Calculated

- (1) CRASH program—damage only routine
- (2) CRASH program—damage and trajectory routine
- (3) Missing vehicle algorithm

## Delta V Not Calculated

- (4) At least one vehicle (which may be this vehicle) is beyond the scope of an acceptable reconstruction program, regardless of collision conditions.
- (5) All vehicles within scope (CDC applicable) of CRASH program but one of the collision conditions is beyond the scope of the CRASH program or other acceptable reconstruction techniques, regardless of adequacy of damage data.
- (6) All vehicles and collision conditions are within scope of one of the acceptable reconstruction programs, but there is insufficient data available.

**COMPUTER GENERATED DELTA V**

## 30. Total Delta V

Secondary Highest

11.1 Nearest mph

(NOTE: 00 means less than  
0.5 mph)  
(97) 96.5 mph and above  
(99) Unknown

## 31. Longitudinal Component of Delta V

-5.5 Nearest mph

(NOTE: —00 means greater than  
–0.5 and less than +0.5 mph)  
(±97) ±96.5 mph and above  
(—99) Unknown

## 32. Lateral Component of Delta V

Secondary Highest

-9.6 Nearest mph

(NOTE: —00 means greater than  
–0.5 and less than +0.5 mph)  
(±97) ±96.5 mph and above  
(—99) Unknown

## 33. Energy Absorption

25521.7 Nearest 100 foot-lbs

(NOTE: 0000 means less than 50 Foot-Lbs)  
(9997) 999,650 foot-lbs or more  
(9999) Unknown

## 34. Confidence in Reconstruction Program Results (for Highest Delta V)

- (0) No reconstruction
- (1) Collision fits model—results appear reasonable
- (2) Collision fits model—results appear high
- (3) Collision fits model—results appear low
- (4) Borderline reconstruction—results appear reasonable

## 35. Type of Vehicle Inspection

- (0) No inspection
- (1) Complete inspection
- (2) Partial inspection (specify):

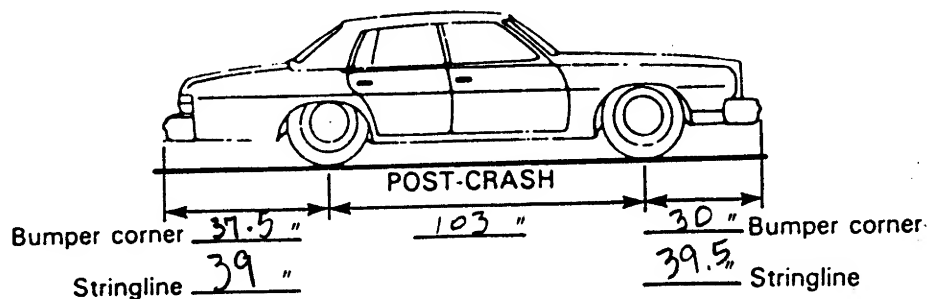
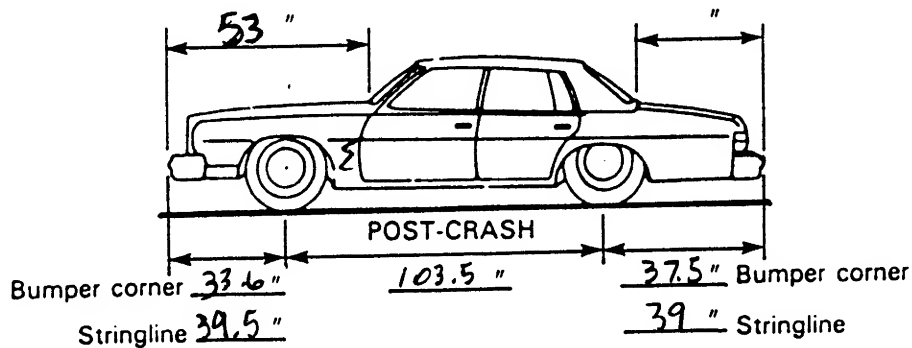
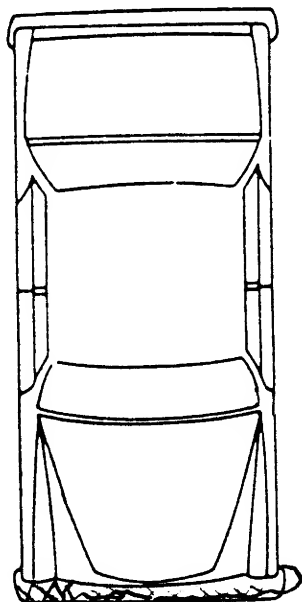
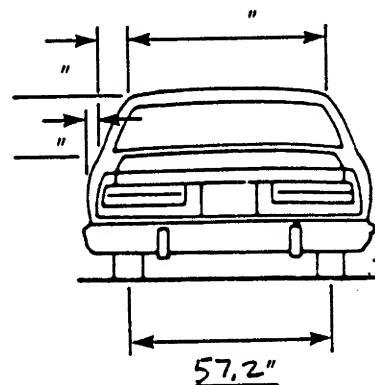
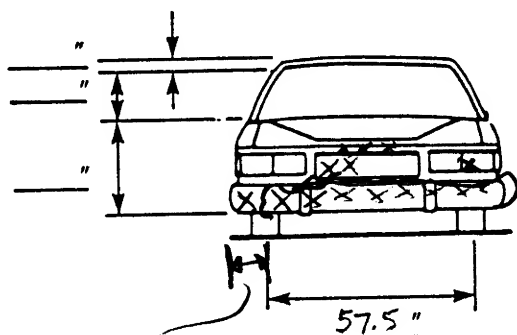
## 36. Is this an AOPS Vehicle?

- (0) No
- (1) Yes

\*\*\* STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT INSPECTED (I.E., GV35 = 0), \*\*\*  
DO NOT COMPLETE THE EXTERIOR AND INTERIOR VEHICLE FORMS.

## VEHICLE DAMAGE SKETCH

<b>TIRE—WHEEL DAMAGE</b> a. Rotation physically restricted RF <u>2</u> LF <u>2</u> RR <u>2</u> LR <u>2</u> (1) Yes (2) No (8) NA (9) Unk.		<b>b. Tire deflated</b> RF <u>2</u> LF <u>2</u> RR <u>2</u> LR <u>2</u>		<b>ORIGINAL SPECIFICATIONS</b> Wheelbase <u>103.3</u> Overall Length <u>181.2</u> Maximum Width <u>67.3</u> Curb Weight <u>2789</u> Average Track <u>57.4</u> Front Overhang <u>39</u> Rear Overhang <u>39</u> Engine Size: cyl./ displ. <u>4/2.5L</u> Undeformed End Width <u>57</u>		<b>WHEEL STEER ANGLES</b> (For locked front wheels or displaced rear axles only) RF $\pm$ <u>00</u> ° LF $\pm$ <u>+</u> ° RR $\pm$ <u>+</u> ° LR $\pm$ <u>+</u> ° Within $\pm 5$ degrees	
<b>TYPE OF TRANSMISSION</b> <input type="checkbox"/> Manual <input checked="" type="checkbox"/> Automatic				<b>DRIVE WHEELS</b> <input checked="" type="checkbox"/> FWD <input type="checkbox"/> RWD <input type="checkbox"/> 4WD		Approximate Cargo Weight <u>0</u>	



NOTES: Sketch new perimeter and cross hatch direct damage and single hatch induced damage on all views. Annotate observations which might be useful in reconstructing the accident (e.g., grass in tire bead, direction of striations, scuff on sidewall, etc.). If pulling trailer, sketch type of trailer and damage received on the back of this page.

Annotate any damage caused by extrication such as component removal by torching, prying, or hydraulic shears.

**NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM**

HS Form 435A (Rev. 1/90)

## CDC WORKSHEET

## CODES FOR OBJECT CONTACTED

## 01-30 – Vehicle Number

## Noncollision

- (31) Overturn – rollover  
 (32) Fire or explosion  
 (33) Jackknife  
 (34) Other intraunit damage (specify):

- (35) Noncollision injury  
 (38) Other noncollision (specify):

## (39) Noncollision – details unknown

## Collision with Fixed Object

- (41) Tree ( $\leq 4$  inches in diameter)  
 (42) Tree ( $> 4$  inches in diameter)  
 (43) Shrubbery or bush  
 (44) Embankment

## (45) Breakaway pole or post (any diameter)

## Nonbreakaway Pole or Post

- (50) Pole or post ( $\leq 4$  inches in diameter)  
 (51) Pole or post ( $> 4$  but  $\leq 12$  inches in diameter)  
 (52) Pole or post ( $> 12$  inches in diameter)  
 (53) Pole or post (diameter unknown)

- (54) Concrete traffic barrier  
 (55) Impact attenuator  
 (56) Other traffic barrier (specify):

- (57) Fence  
 (58) Wall  
 (59) Building  
 (60) Ditch or Culvert  
 (61) Ground  
 (62) Fire hydrant  
 (63) Curb  
 (64) Bridge  
 (68) Other fixed object (specify):

## (69) Unknown fixed object

## Collision With Nonfixed Object

- (71) Motor vehicle not in transport  
 (72) Pedestrian  
 (73) Cyclist or cycle  
 (74) Other nonmotorist or conveyance (specify):

- (75) Vehicle occupant  
 (76) Animal  
 (77) Train  
 (78) Trailer, disconnected in transport  
 (88) Other nonfixed object (specify):

## (89) Unknown nonfixed object

## (98) Other event (specify):

## (99) Unknown event or object

## DEFORMATION CLASSIFICATION BY EVENT NUMBER

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force (degrees)	Incremental Value of Shift	(3) Deformation Location	(4) Specific Longitudinal or Lateral Location	(5) Specific Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
<u>01</u>	<u>02</u>	<u>060</u>	<u>00</u>	<u>F</u>	<u>D</u>	<u>E</u>	<u>W</u>	<u>01</u>
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## National Accident Sampling System – Crashworthiness Data System: Exterior Vehicle Form

Page 4

## COLLISION DEFORMATION CLASSIFICATION

## HIGHEST DELTA "V"

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force	(3) Deformation Location	(4) Specific Longitudinal or Lateral Location	(5) Specific Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
4. <u>01</u>	5. <u>02</u>	6. <u>02</u>	7. <u>F</u>	8. <u>D</u>	9. <u>E</u>	10. <u>W</u>	11. <u>01</u>

## Second Highest Delta "V"

12. ____	13. ____	14. ____	15. ____	16. ____	17. ____	18. ____	19. ____
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## CRUSH PROFILE

(The crush profile for the damage described in the CDC(s) above should be documented in the appropriate space below. ALL MEASUREMENTS ARE IN INCHES.)

## HIGHEST DELTA "V"

20. L	21. C1	C2	C3	C4	C5	C6	22. - - D
<u>055</u>	<u>01</u>	<u>01</u>	<u>02</u>	<u>02</u>	<u>04</u>	<u>04</u>	<u>000</u>

## Second Highest Delta "V"

23. L	24. C1	C2	C3	C4	C5	C6	25. + - D
____	____	____	____	____	____	____	____

26. Are CDCs Documented but Not Coded on The Automated File  
(0) No  
(1) Yes

0

27. Researcher's Assessment of Vehicle Disposition  
(0) Not towed due to vehicle damage  
(1) Towed due to vehicle damage  
(9) Unknown

1

28. Original Wheelbase  
103.3 Code to the nearest tenth of an inch  
(9999) Unknown

103.3

\*\*\* STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT TOWED \*\*\*  
(I.E., GV09 = 0 OR 9), DO NOT COMPLETE THE INTERIOR VEHICLE FORM.



U.S. Department of Transportation  
National Highway Traffic Safety  
Administration

# INTERIOR VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number

NCST

2. Case Number - Stratum

9002

3. Vehicle Number

01

## INTEGRITY

4. Passenger Compartment Integrity

00

(00) No integrity loss

Yes, Integrity Was Lost Through

(01) Windshield

(02) Door (side)

(03) Door/hatch (rear)

(04) Roof

(05) Roof glass

(06) Side window

(07) Rear window

(08) Roof and roof glass

(09) Windshield and door (side)

(10) Windshield and roof

(11) Side and rear window

(12) Windshield and side window

(13) Door and side window

(98) Other combination of above (specify):

(99) Unknown

Door, Tailgate Or Hatch Opening

5. LF 1 6. RF 1 7. LR 1 8. RR 1 9. TG/H 0

(0) No door/gate/hatch

(1) Door/gate/hatch remained closed and operational

(2) Door/gate/hatch came open during collision

(3) Door/gate/hatch jammed shut

(8) Other (specify):

(9) Unknown

Damage/Failure Associated with Door, Tailgate or Hatch Opening in Collision. If IV05-IV09 ≠ 2, Then Code 0.

10. LF 1 11. RF 1 12. LR 1 13. RR 1 14. TG/H 0

(0) No door/gate/hatch or door not opened

Door, Tailgate, or Hatch Came Open During Collision

(1) Door operational (no damage)

(2) Latch/striker failure due to damage

(3) Hinge failure due to damage

(4) Door structure failure due to damage

(5) Door support (i.e., pillar, sill, roof side rail, etc.) failure due to damage

(6) Latch/striker and hinge failure due to damage

(8) Other failure (specify):

(9) Unknown

## GLAZING

Glazing Damage from Impact Forces

15. WS 0 16. LF 0 17. RF 0 18. LR 0 19. RR 0

20. BL 0 21. Roof 0 22. Other 0

(0) No glazing damage from impact forces

(2) Glazing in place and cracked from impact forces

(3) Glazing in place and holed from impact forces

(4) Glazing out-of-place (cracked or not) and not holed from impact forces

(5) Glazing out-of-place and holed from impact forces

(6) Glazing disintegrated from impact forces

(7) Glazing removed prior to accident

(8) No glazing

(9) Unknown if damaged

Glazing Damage from Occupant Contact

23. WS 0 24. LF 0 25. RF 0 26. LR 0 27. RR 0

28. BL 0 29. Roof 0 30. Other 0

(0) No occupant contact to glazing or no glazing

(1) Glazing contacted by occupant but no glazing damage

(2) Glazing in place and cracked by occupant contact

(3) Glazing in place and holed by occupant contact

(4) Glazing out-of-place (cracked or not) by occupant contact and not holed by occupant contact

(5) Glazing out-of-place by occupant contact and holed by occupant contact

(6) Glazing disintegrated by occupant contact

(9) Unknown if contacted by occupant

If No Glazing Damage And No Occupant Contact or No Glazing, Then Code IV 31 Through IV 46 As 0

Type of Window/Windshield Glazing

31. WS 0 32. LF 0 33. RF 0 34. LR 0 35. RR 0

36. BL 0 37. Roof 0 38. Other 0

(0) No glazing contact and no damage, or no glazing

(1) AS-1 - Laminated

(2) AS-2 - Tempered

(3) AS-3 - Tempered-tinted

(4) AS-14 - Glass/Plastic

(8) Other (specify):

(9) Unknown

Window Precrash Glazing Status

39. WS 0 40. LF 0 41. RF 0 42. LR 0 43. RR 0

44. BL 0 45. Roof 0 46. Other 0

(0) No glazing contact and no damage, or no glazing

(1) Fixed

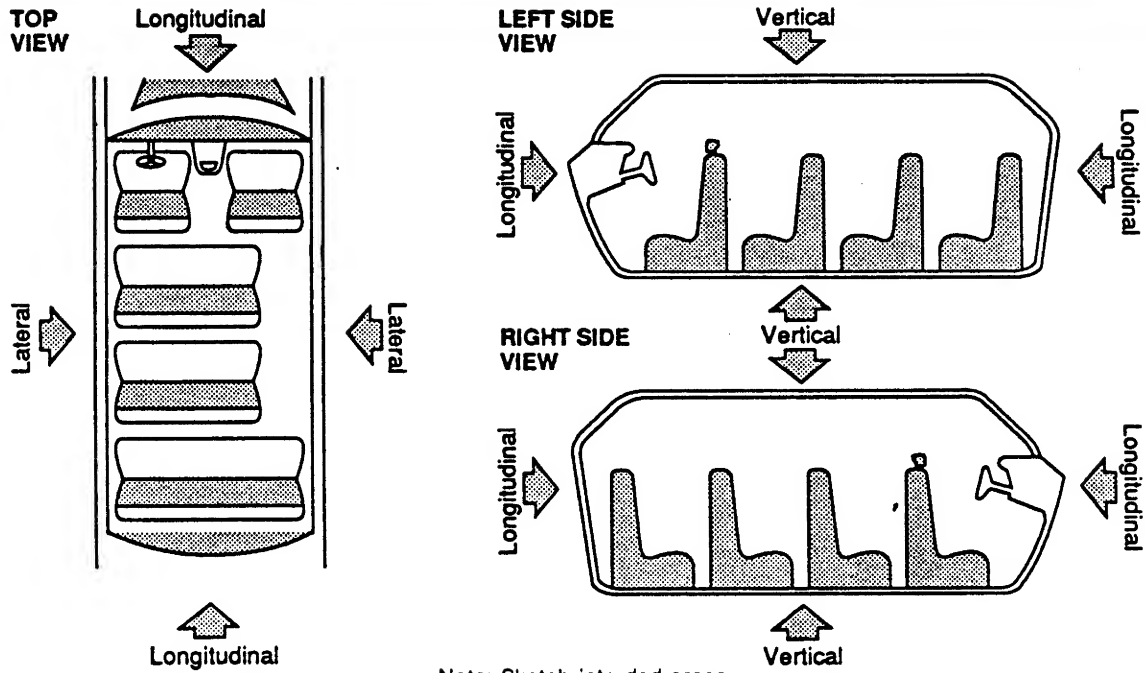
(2) Closed

(3) Partially opened

(4) Fully opened

(9) Unknown

# INTRUSION WORK SHEET



LOCATION OF INTRUSION	INTRUDED COMPONENT	COMPARISON VALUE	-	INTRUDED VALUE	=	INTRUSION	DOMINANT CRUSH DIRECTION
NONE			-		=		
			-		=		
			-		=		
			-		=		
			-		=		
			-		=		
			-		=		
			-		=		
			-		=		
			-		=		
			-		=		
			-		=		
			-		=		
			-		=		
			-		=		
			-		=		

Document no more than the 15 most severe intrusions



**OCCUPANT AREA INTRUSION**

Note: If no intrusions, leave variables IV 47-IV 86 blank.

	<u>Location of Intrusion</u>	<u>Intruding Component</u>	<u>Magnitude of Intrusion</u>	<u>Dominant Crush Direction</u>
1st	47.____	48.____	49.____	50.____
2nd	51.____	52.____	53.____	54.____
3rd	55.____	56.____	57.____	58.____
4th	59.____	60.____	61.____	62.____
5th	63.____	64.____	65.____	66.____
6th	67.____	68.____	69.____	70.____
7th	71.____	72.____	73.____	74.____
8th	75.____	76.____	77.____	78.____
9th	79.____	80.____	81.____	82.____
10th	83.____	84.____	85.____	86.____

**LOCATION OF INTRUSION****Front Seat**

- (11) Left
- (12) Middle
- (13) Right

**Second Seat**

- (21) Left
- (22) Middle
- (23) Right

**Third Seat**

- (31) Left
- (32) Middle
- (33) Right

**Fourth Seat**

- (41) Left
- (42) Middle
- (43) Right

- (97) Catastrophic
- (98) Other enclosed area (specify): \_\_\_\_\_

- (99) Unknown

**INTRUDING COMPONENT****Interior Components**

- (01) Steering assembly
- (02) Instrument panel left
- (03) Instrument panel center
- (04) Instrument panel right
- (05) Toe pan
- (06) A-pillar
- (07) B-pillar
- (08) C-pillar
- (09) D-pillar
- (10) Door panel
- (12) Roof (or convertible top)
- (13) Roof side rail
- (14) Windshield
- (15) Windshield header
- (16) Window frame
- (17) Floor pan
- (18) Backlight header
- (19) Front seat back
- (20) Second seat back
- (21) Third seat back
- (22) Fourth seat back
- (23) Fifth seat back
- (24) Seat cushion
- (25) Back panel or door surface
- (26) Other interior component (specify): \_\_\_\_\_

- (27) Side panel - forward of the A-pillar
- (28) Side panel - rear of the A-pillar

**Exterior Components**

- (30) Hood
- (31) Outside surface of vehicle (specify): \_\_\_\_\_
- (32) Other exterior object in the environment (specify): \_\_\_\_\_
- (33) Unknown exterior object
- (97) Catastrophic
- (98) Intrusion of unlisted component(s) (specify): \_\_\_\_\_
- (99) Unknown

**MAGNITUDE OF INTRUSION**

- (1)  $\geq 1$  inch but  $< 3$  inches
- (2)  $\geq 3$  inches but  $< 6$  inches
- (3)  $\geq 6$  inches but  $< 12$  inches
- (4)  $\geq 12$  inches but  $< 18$  inches
- (5)  $\geq 18$  inches but  $< 24$  inches
- (6)  $\geq 24$  inches
- (7) Catastrophic
- (9) Unknown

**DOMINANT CRUSH DIRECTION**

- (1) Vertical
- (2) Longitudinal
- (3) Lateral
- (7) Catastrophic
- (9) Unknown

## STEERING COLUMN

87. Steering Column Type 2

- (1) Fixed column  
 (2) Tilt column  
 (3) Telescoping column  
 (4) Tilt and telescoping column  
 (8) Other column type (specify): \_\_\_\_\_

(9) Unknown

If PDOF  $\neq$  11, 12 or 1, Then Code IV88-IV91 As 9688. Steering Column Collapse Due to Occupant Loading 8 1

\_\_\_\_\_ Code actual measured movement to the nearest inch. See coding manual for measurement technique(s).

(00) No movement, compression, or collapse

(01-19) Actual measured value

(20) 20 inches or greater

Estimated movement from observation

(81) Less than 1 inch

(82)  $\geq$  1 inch but  $<$  2 inches(83)  $\geq$  2 inches but  $<$  4 inches(84)  $\geq$  4 inches but  $<$  6 inches(85)  $\geq$  6 inches but  $<$  8 inches

(86) Greater than or equal to 8 inches

(96) Not assessed (PDOF  $\neq$  11, 12, 1)

(97) Apparent movement, value undetermined or cannot be measured or estimated

(98) Nonspecified type column

(99) Unknown

## Direction And Magnitude of Steering Column Movement

89. Vertical Movement + 0 090. Lateral Movement + 0 091. Longitudinal Movement + 0 0

Code the actual measured movement to the nearest inch. See Coding Manual for measurement technique(s)

(00) No steering column movement

( $\pm$ 01 –  $\pm$ 49) Actual measured value( $\pm$ 50) 50 inches or greater

Estimated movement from observation

( $\pm$ 81)  $\geq$  1 inch but  $<$  3 inches( $\pm$ 82)  $\geq$  3 inches but  $<$  6 inches( $\pm$ 83)  $\geq$  6 inches but  $<$  12 inches( $\pm$ 84)  $\geq$  12 inches(96) Not assessed (PDOF  $\neq$  11, 12, 1)(97) Apparent movement  $>$  1 inch but cannot be measured or estimated

(99) Unknown

92. Steering Rim/Spoke Deformation 0

\_\_\_\_\_ Code actual measured deformation to the nearest inch.

(0) No steering rim deformation

(1-5) Actual measured value

(6) 6 inches or more

(8) Observed deformation cannot be measured

(9) Unknown

93. Location of Steering Rim/Spoke Deformation 0 0

(00) No steering rim deformation

Quarter Sections

(01) Section A

(02) Section B

(03) Section C

(04) Section D



Half Sections

(05) Upper half of rim/spoke

(06) Lower half of rim/spoke

(07) Left half of rim/spoke

(08) Right half of rim/spoke



(09) Complete steering wheel collapse

(10) Undetermined location

(99) Unknown

## INSTRUMENT PANEL

94. Odometer Reading 0 0 2,000

2 277 miles—Code mileage to the nearest 1,000 miles

(000) No odometer

(001) Less than 1,500 miles

(300) 299,500 miles or more

(999) Unknown

Source: \_\_\_\_\_

95. Instrument Panel Damage from Occupant Contact? 0

(0) No

(1) Yes

(9) Unknown

96. Knee Bolsters Deformed from Occupant Contact? 0

(0) No

(1) Yes

(8) Not present

(9) Unknown

97. Did Glove Compartment Door Open During Collision(s)? 0

(0) No

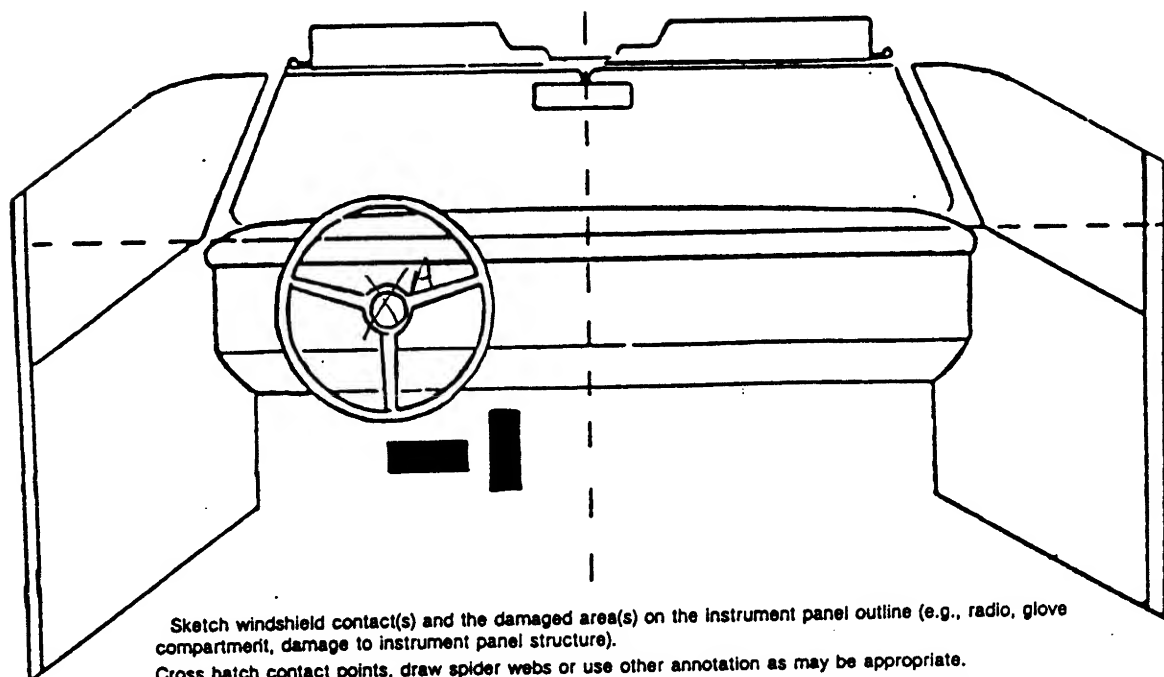
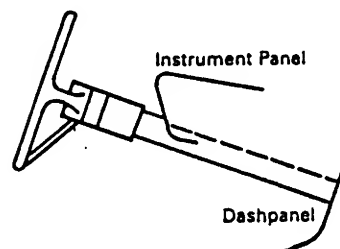
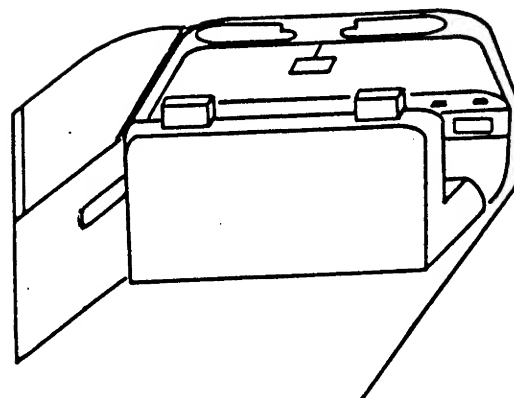
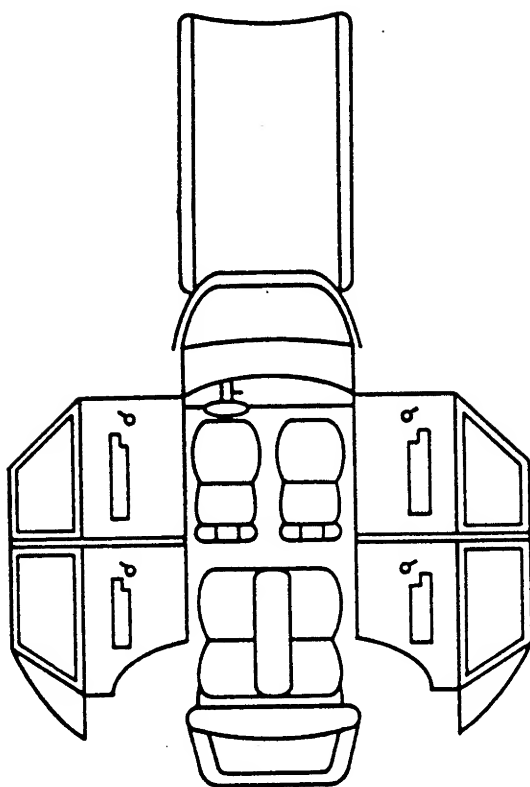
(1) Yes

(8) Not present

(9) Unknown

## VEHICLE INTERIOR SKETCHES

Note area of ejection/entrapment



Sketch windshield contact(s) and the damaged area(s) on the instrument panel outline (e.g., radio, glove compartment, damage to instrument panel structure).  
 Cross hatch contact points, draw spider webs or use other annotation as may be appropriate.  
 Annotate the contacted area with a letter (begin with A) and list on the Points of Occupant Contact page.

## POINTS OF OCCUPANT CONTACT

Contact	Interior Component Contacted	Occupant No. If Known	Body Region If Known	Supporting Physical Evidence	Confidence Level of Contact Point
A	AIRBAG	1	F	SKIN TRANSFER	1
B					
C					
D					
E					
F					
G					
H					
I					
J					
K					
L					
M					
N					

## CODES FOR INTERIOR COMPONENTS

## FRONT

- (01) Windshield
- (02) Mirror
- (03) Sunvisor
- (04) Steering wheel rim
- (05) Steering wheel hub/spoke
- (06) Steering wheel (combination of codes 04 and 05)
- (07) Steering column, transmission selector lever, other attachment
- (08) Add on equipment (e.g., CB, tape deck, air conditioner)
- (09) Left instrument panel and below
- (10) Center instrument panel and below
- (11) Right instrument panel and below
- (12) Glove compartment door
- (13) Knee bolster
- (14) Windshield including one or more of the following: front header, A-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (15) Windshield including one or more of the following: front header, A-pillar, instrument panel, or mirror (passenger side only)
- (16) Other front object (specify):  
\_\_\_\_\_

## LEFT SIDE

- (20) Left side interior surface, excluding hardware or armrests
- (21) Left side hardware or armrest
- (22) Left A pillar
- (23) Left B pillar
- (24) Other left pillar (specify):  
\_\_\_\_\_
- (25) Left side window glass or frame

- (26) Left side window glass including one or more of the following: frame, window sill, A-pillar, B-pillar, or roof side rail
- (27) Other left side object (specify):  
\_\_\_\_\_

## RIGHT SIDE

- (30) Right side interior surface, excluding hardware or armrests
- (31) Right side hardware or armrest
- (32) Right A pillar
- (33) Right B pillar
- (34) Other right pillar (specify):  
\_\_\_\_\_
- (35) Right side window glass or frame
- (36) Right side window glass including one or more of the following: frame, window sill, A-pillar, B-pillar, or roof side rail
- (37) Other right side object (specify):  
\_\_\_\_\_

## INTERIOR

- (40) Seat, back support
- (41) Belt restraint webbing/buckle
- (42) Belt restraint B-pillar attachment point
- (43) Other restraint system component (specify):  
\_\_\_\_\_
- (44) Head restraint system
- (45) Air bag
- (46) Other occupants (specify):  
\_\_\_\_\_
- (47) Interior loose objects

- (48) Child safety seat (specify):  
\_\_\_\_\_

- (49) Other interior object (specify):  
\_\_\_\_\_

## ROOF

- (50) Front header
- (51) Rear header
- (52) Roof left side rail
- (53) Roof right side rail
- (54) Roof or convertible top

## FLOOR

- (56) Floor including toe pan
- (57) Floor or console mounted transmission lever, including console
- (58) Parking brake handle
- (59) Foot controls including parking brake

## REAR

- (60) Backlight (rear window)
- (61) Backlight storage rack, door, etc.
- (62) Other rear object (specify):  
\_\_\_\_\_

## CONFIDENCE LEVEL OF CONTACT POINT

- (1) Certain
- (2) Probable
- (3) Possible
- (4) Unknown

# AUTOMATIC RESTRAINTS

**NOTES:** Encode the data for each applicable front seat position. The attributes for the variables may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

		Left	Center	Right
F I R S T	Availability	1	0	0
	Function	4	0	0
	Failure	1	0	0

## Automatic (Passive) Restraint System Availability

- (0) Not equipped/not available
- (1) Airbag
- (2) Airbag disconnected (specify): \_\_\_\_\_

- (3) Airbag not reinstalled
- (4) 2 point automatic belts
- (5) 3 point automatic belts
- (6) Automatic belts destroyed or rendered inoperative
- (9) Unknown

## Automatic (Passive) Restraint Function

- (0) Not equipped/not available

### Automatic Belt

- (1) Automatic belt in use
- (2) Automatic belt not in use
- (3) Automatic belt use unknown

### Air Bag

- (4) Airbag deployed during accident
- (5) Airbag deployed inadvertently just prior to accident
- (6) Deployed, accident sequence undetermined
- (7) Nondeployed
- (8) Unknown if deployed
- (9) Unknown

## Did Automatic (Passive) Restraint Fail

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify): \_\_\_\_\_
- (9) Unknown

**MANUAL RESTRAINTS**

**NOTES:** Encode the applicable data for each seat position in the vehicle. The attributes for the variables may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

If a child safety seat is present, encode the data on the back of this page.

If the vehicle has automatic restraints available, encode the appropriate data on the back of the previous page.

		Left	Center	Right
FIRST	Availability	4	0	4
	Use	0	00	00
	Failure Modes	0	00	00
SECOND	Availability	4	3	4
	Use	00	00	00
	Failure Modes	00	00	00
THIRD	Availability			
	Use			
	Failure Modes			
OTHER	Availability			
	Use			
	Failure Modes			

**Manual (Active) Belt System Availability**

- (0) Not available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available – type unknown
- (8) Other belt (specify):

(9) Unknown

**Manual (Active) Belt System Use**

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperative (specify):

- (02) Shoulder belt
- (03) Lap belt
- (04) Lap and shoulder belt
- (05) Belt used – type unknown

**(08) Other belt used (specify):**

- (12) Shoulder belt used with child safety seat
- (13) Lap belt used with child safety seat
- (14) Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat – type unknown
- (18) Other belt used with child safety seat (specify):

(99) Unknown if belt used

**Manual (Active) Belt Failure Modes During Accident**

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):

- (6) Broken retractor
- (7) Combination of above (specify):

(8) Other manual belt failure (specify):

(9) Unknown

**CHILD SAFETY SEAT FIELD ASSESSMENT**

When a child safety seat is present enter the occupant's number in the first row and complete the column below the occupant's number using the codes listed below. Complete a column for each child safety seat present.

Occupant Number						
1. Type of Child Safety Seat	0					
2. Child Safety Seat Orientation						
3. Child Safety Seat Harness Usage						
4. Child Safety Seat Shield Usage						
5. Child Safety Seat Tether Usage						
6. Child Safety Seat Make/Model	Specify Below for Each Child Safety Seat					

**1. Type of Child Safety Seat**

- (0) No child safety seat  
 (1) Infant seat  
 (2) Toddler seat  
 (3) Convertible seat  
 (4) Booster seat  
 (7) Other type child safety seat (specify):  
 \_\_\_\_\_

- (8) Unknown child safety seat type  
 (9) Unknown if child safety seat used

**2. Child Safety Seat Orientation**

- (00) No child safety seat  
 Designed for Rear Facing for This Age/Weight  
 (01) Rear facing  
 (02) Forward facing  
 (03) Other orientation (specify):  
 \_\_\_\_\_

**(04) Unknown orientation**

- Designed for Forward Facing for This Age/Weight  
 (11) Rear facing  
 (12) Forward facing  
 (18) Other orientation (specify):  
 \_\_\_\_\_

**(19) Unknown orientation**

- Unknown Design or Orientation for This Age/Weight, or Unknown Age/Weight  
 (21) Rear facing  
 (22) Forward facing  
 (28) Other orientation (specify):  
 \_\_\_\_\_

**(29) Unknown orientation**

- (99) Unknown if child safety seat used

**3. Child Safety Seat Harness Usage****4. Child Safety Seat Shield Usage****5. Child Safety Seat Tether Usage**

Note: Options Below Are Used for Variables 3-5.

(00) No child safety seat

Not Designed with Harness/Shield/Tether

(01) After market harness/shield/tether added, not used

(02) After market harness/shield/tether used

(03) Child safety seat used, but no after market harness/shield/tether added

(09) Unknown if harness/shield/tether added or used

Designed with Harness/Shield/Tether

(11) Harness/shield/tether not used

(12) Harness/shield/tether used

(19) Unknown if harness/shield/tether used

Unknown if Designed with Harness/Shield/Tether

(21) Harness/shield/tether not used

(22) Harness/shield/tether used

(29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

**6. Child Safety Seat Make/Model**

(Specify make/model and occupant number)

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**HEAD RESTRAINTS/SEAT EVALUATION**

NOTES: Encode the applicable data for **each seat position** in the vehicle. The attributes for these variables may be found at the bottom of the page. Head restraint type/damage and seat type/performance should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

		Left	Center	Right
F I R S T	Head Restraint Type/Damage	3	0	3
	Seat Type	02	00	02
	Seat Performance	1	0	1
S E C O N D	Head Restraint Type/Damage	0	0	0
	Seat Type	03	03	03
	Seat Performance	1	1	1
T H I R D	Head Restraint Type/Damage			
	Seat Type			
	Seat Performance			
O T H E R	Head Restraint Type/Damage			
	Seat Type			
	Seat Performance			

**Head Restraint Type/Damage by Occupant at This Occupant Position**

- (0) No head restraints
- (1) Integral — no damage
- (2) Integral — damaged during accident
- (3) Adjustable — no damage
- (4) Adjustable — damaged during accident
- (5) Add-on — no damage
- (6) Add-on — damaged during accident
- (8) Other (specify): \_\_\_\_\_
- (9) Unknown

**Seat Type (This Occupant Position)**

- (00) No seat
- (01) Bucket
- (02) Bucket with folding back
- (03) Bench
- (04) Bench with separate back cushions
- (05) Bench with folding back(s)
- (06) Split bench with separate back cushions
- (07) Split bench with folding back(s)
- (08) Pedestal (i.e., van type)
- (09) Other seat type (specify): \_\_\_\_\_
- (99) Unknown

**Seat Performance (This Occupant Position)**

- (0) No seat
- (1) No seat performance failure(s)
- (2) Seat adjusters failed
- (3) Seat back folding locks failed
- (4) Seat tracks/anchors failed
- (5) Deformed by impact of occupant
- (6) Deformed by passenger compartment intrusion (specify): \_\_\_\_\_

- (7) Combination of above (specify): \_\_\_\_\_
- (8) Other (specify): \_\_\_\_\_

- (9) Unknown

**DESCRIBE ANY INDICATION OF ABNORMAL OCCUPANT POSTURE (I.E. UNUSUAL OCCUPANT CONTACT PATTERN)**



**EJECTION/ENTRAPMENT DATA**

Complete the following if the researcher has any indications that an occupant was either ejected from or entrapped in the vehicle. Code the appropriate data on the Occupant Assessment Form.

**EJECTION** No ☒ Yes ☐

Describe indications of ejection and body parts involved in partial ejection(s):

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Occupant Number						
Ejection						
(Note on Vehicle Interior Sketch) Ejection Area						
Ejection Medium						
Medium Status						

**Ejection**

- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, unknown degree
- (9) Unknown

**Ejection Area**

- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear

**(7) Roof**

- (8) Other area (e.g., back of pickup, etc.) (specify):

**(9) Unknown****Ejection Medium**

- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify):

**(5) Integral structure**

- (8) Other medium (specify):

**(9) Unknown****Medium Status (Immediately Prior to Impact)**

- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

**ENTRAPMENT** No ☒ Yes ☐

Describe entrapment mechanism: \_\_\_\_\_

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Component(s): \_\_\_\_\_

(Note in vehicle interior diagram)



## OCCUPANT ASSESSMENT FORM

<p>1. Primary Sampling Unit Number <u>NCSE</u></p> <p>2. Case Number—Stratum <u>90-02</u></p> <p>3. Vehicle Number <u>01</u></p> <p>4. Occupant Number <u>01</u></p> <p><b>OCCUPANT'S CHARACTERISTICS</b></p> <p>5. Occupant's Age <u>19</u> Code actual age at time of accident. (00) Less than one year old (specify by month): _____ (97) 97 years and older (99) Unknown</p> <p>6. Occupant's Sex <u>2</u> (1) Male (2) Female (9) Unknown</p> <p>7. Occupant's Height <u>66</u> Code actual height to the nearest inch. (99) Unknown</p> <p>8. Occupant's Weight <u>125</u> Code actual weight to the nearest pound. (999) Unknown</p> <p>9. Occupant's Role <u>1</u> (1) Driver (2) Passenger (9) Unknown</p> <p>10. Occupant's Seat Position <u>11</u> Front Seat (11) Left side (12) Middle (13) Right side (14) Other (specify): _____ Second Seat (21) Left side (22) Middle (23) Right side (24) Other (specify): _____ Third Seat (31) Left side (32) Middle (33) Right side (34) Other (specify): _____ Fourth Seat (41) Left side (42) Middle (43) Right side (44) Other (specify): _____ (97) In or on unenclosed area (98) Other seat (specify): _____ (99) Unknown</p>	<p>11. Occupant's Posture <u>1</u> (0) Normal posture (1) Abnormal posture (specify): _____ (9) Unknown</p> <p><b>EJECTION/ENTRAPMENT</b></p> <p>12. Ejection <u>0</u> (0) No ejection (1) Complete ejection (2) Partial ejection (3) Ejection, unknown degree (9) Unknown</p> <p>13. Ejection Area <u>0</u> (0) No ejection (1) Windshield (2) Left front (3) Right front (4) Left rear (5) Right rear (6) Rear (7) Roof (8) Other area (e.g., back of pickup, etc.) (specify): _____ (9) Unknown</p> <p>14. Ejection Medium <u>0</u> (0) No ejection (1) Door/hatch/tailgate (2) Nonfixed roof structure (3) Fixed glazing (4) Nonfixed glazing (specify): _____ (5) Integral structure (8) Other medium (specify): _____ (9) Unknown</p> <p>15. Medium Status (Immediately Prior to Impact) <u>2</u> (0) No ejection (1) Open (2) Closed (3) Integral structure (9) Unknown</p> <p>16. Entrapment <u>2</u> (NOTE: Entrapped means that part of the person was in the vehicle and mechanically restrained; jammed doors and immobilizing injuries by themselves are not sufficient to constitute entrapment.) (0) Not entrapped (1) Entrapped (9) Unknown</p>
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## National Accident Sampling System—Crashworthiness Data System: Occupant Assessment Form

Page 2

## RESTRAINT SYSTEM AND SEAT EVALUATION

17. Manual (Active) Belt System Availability 4

- (0) Not available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available—type unknown
- (8) Other belt (specify):

(9) Unknown

18. Manual (Active) Belt System Use 00

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperative (specify):

- (02) Shoulder belt
- (03) Lap belt
- (04) Lap and shoulder belt
- (05) Belt used—type unknown
- (08) Other belt used (specify):

- (12) Shoulder belt used with child safety seat
- (13) Lap belt used with child safety seat
- (14) Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat—type unknown
- (18) Other belt used with child safety seat

(specify):

(99) Unknown if belt used

19. Proper Use of Manual (Active) Belts 0

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

Belt Used Improperly

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify):

(8) Other improper use of manual belt system (specify):

(9) Unknown

20. Manual (Active) Belt Failure Modes During Accident 0

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):

- (6) Broken retractor
- (7) Combination of above (specify):

(8) Other manual belt failure (specify):

(9) Unknown

21. Automatic (Passive) Restraint System Availability 1

- (0) Not equipped/not available
- (1) Airbag
- (2) Airbag disconnected (specify):

- (3) Airbag not reinstalled
- (4) 2 point automatic belts
- (5) 3 point automatic belts
- (6) Automatic belts destroyed or rendered inoperative
- (9) Unknown

22. Automatic (Passive) Restraint Function 4

- (0) Not equipped/not available

Automatic Belt

- (1) Automatic belt in use
- (2) Automatic belt not in use
- (3) Automatic belt use unknown

Air Bag

- (4) Airbag deployed during accident
- (5) Airbag deployed inadvertently just prior to accident
- (6) Deployed, accident sequence undetermined
- (7) Nondeployed
- (8) Unknown if deployed
- (9) Unknown

23. Did Automatic (Passive) Restraint Fail? 1

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify):

(9) Unknown

24. Police Reported Restraint Use 9

- (0) None used
- (1) Police did not indicate restraint use
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt used, type not specified
- (6) Child safety seat
- (7) Other or automatic restraint (specify):

- (8) Restrained, type unknown
- (9) Police indicated "unknown"

25. Head Restraint Type/Damage by Occupant at This Occupant Position 3

- (0) No head restraints
- (1) Integral—no damage
- (2) Integral—damaged during accident
- (3) Adjustable—no damage
- (4) Adjustable—damaged during accident
- (5) Add-on—no damage
- (6) Add-on—damaged during accident
- (8) Other (specify):

(9) Unknown

**26. Seat Type (This Occupant Position)** 02

- (00) Occupant not seated or no seat
- (01) Bucket
- (02) Bucket with folding back
- (03) Bench
- (04) Bench with separate back cushions
- (05) Bench with folding back(s)
- (06) Split bench with separate back cushions
- (07) Split bench with folding back(s)
- (08) Pedestal (i.e., van type)
- (09) Other seat type (specify):

\_\_\_\_\_

(99) Unknown

**27. Seat Performance (This Occupant Position)** 1

- (0) Occupant not seated or no seat
- (1) No seat performance failure(s)
- (2) Seat adjusters failed
- (3) Seat back folding locks failed
- (4) Seat track/anchors failed
- (5) Deformed by impact of occupant
- (6) Deformed by passenger compartment intrusion (specify):

\_\_\_\_\_

\_\_\_\_\_

(7) Combination of above (specify):

\_\_\_\_\_

(8) Other (specify):

\_\_\_\_\_

(9) Unknown

**CHILD SAFETY SEAT****28. Child Safety Seat Make/Model** 000

- (000) No child safety seat
- Applicable codes are found in your NASS CDS Data Collection, Coding, and Editing Manual
- (997) Other make/model (specify):

\_\_\_\_\_

(998) Unknown make/model

(999) Unknown if child safety seat used

**29. Type of Child Safety Seat** 0

- (0) No child safety seat
- (1) Infant seat
- (2) Toddler seat
- (3) Convertible seat
- (4) Booster seat
- (7) Other type child safety seat (specify):

\_\_\_\_\_

(8) Unknown child safety seat type

(9) Unknown if child safety seat used

**30. Child Safety Seat Orientation** 00

- (00) No child safety seat

Designed for Rear Facing for This Age/Weight

- (01) Rear facing
- (02) Forward facing
- (08) Other orientation (specify):

\_\_\_\_\_

(09) Unknown orientation

Designed for Forward Facing for This Age/Weight

- (11) Rear facing
- (12) Forward facing
- (18) Other orientation (specify):

\_\_\_\_\_

(19) Unknown orientation

Unknown Design or Orientation for This Age/Weight, or Unknown Age/Weight

- (21) Rear facing
- (22) Forward facing
- (28) Other orientation (specify):

\_\_\_\_\_

(29) Unknown orientation

(99) Unknown if child safety seat used

**31. Child Safety Seat Harness Usage** 00**32. Child Safety Seat Shield Usage** 00**33. Child Safety Seat Tether Usage** 00

Note: Options below applicable to Variables OA31-OA33.

- (00) No child safety seat

Not Designed with  
Harness/Shield/Tether

- (01) After market harness/shield/tether added, not used
- (02) After market harness/shield/tether used
- (03) Child safety seat used, but no after market harness/shield/tether added
- (09) Unknown if harness/shield/tether added or used

Designed with Harness/Shield/Tether

- (11) Harness/shield/tether not used
- (12) Harness/shield/tether used
- (19) Unknown if harness/shield/tether used

Unknown If Designed with Harness/Shield/Tether

- (21) Harness/shield/tether not used
- (22) Harness/shield/tether used
- (29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

## National Accident Sampling System—Crashworthiness Data System: Occupant Assessment Form

Page 4

## INJURY CONSEQUENCES

34. Injury Severity (Police Rating) 2

- (0) O—No injury
- (1) C—Possible injury
- (2) B—Nonincapacitating injury
- (3) A—Incapacitating injury
- (4) K—Killed
- (5) U—Injury, severity unknown
- (6) Died prior to accident
- (9) Unknown

35. Treatment—Mortality 4

- (0) No treatment
- (1) Fatal
- (2) Fatal—ruled disease

## Nonfatal

- (3) Hospitalized
- (4) Transported and released
- (5) Treatment at scene—nontransported
- (6) Treatment later
- (8) Treatment—other (specify):

(9) Unknown

36. Type of Medical Facility (for Initial Treatment) 3

- (0) Not treated at a medical facility
- (1) Trauma center
- (2) Hospital
- (3) Medical clinic
- (4) Physician's office
- (5) Treatment later at medical facility
- (8) Other (specify):

(9) Unknown

37. Hospital stay 00

- Code number of days (up through 60) that the occupant stayed in the hospital
- (00) Not hospitalized
- (61) 61 days or more
- (99) Unknown

38. Working Days Lost 97

- Code the number of days (up through 60) that the occupant lost from work due to the accident
- (00) No working days lost
- (61) 61 days or more
- (62) Fatally injured
- (97) Not working prior to accident
- (99) Unknown

39. Time to Death 00

- Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 + n up through 30 days = 60)
- (00) Not fatal
- (96) Fatal—ruled disease
- (99) Unknown

40. 1st Medically Reported Cause of Death 0041. 2nd Medically Reported Cause of Death 0042. 3rd Medically Reported Cause of Death 00

- Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death
- (00) Not fatal or no additional causes
- (97) Other result (specify):

(99) Unknown

43. Number of Recorded Injuries for This Occupant 01

- Code the actual number of injuries recorded for this occupant.
- (00) No recorded injuries
- (97) Injured, details unknown
- (99) Unknown if injured

UPDATE CANDIDATE

NO [☒]

YES [ ]

\*\*\* STOP HERE \*\*\*

IF THERE ARE NO RECORDED INJURIES

(I.E., OA43=00, 97, 99)



U.S. Department of Transportation  
National Highway Traffic Safety  
Administration

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Form Approved  
O.M.B. No. 2127-0021  
NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

## OCCUPANT INJURY FORM

1. Primary Sampling Unit Number

NCST

3. Vehicle Number

01

2. Case Number—Stratum

90-02

4. Occupant Number

01

### INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.

	Source of Injury Data	Body Region	Aspect	Lesion	System Organ	A.I.S. Severity	Injury Source	Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion No.
1st	5. <u>7</u>	6. <u>E</u>	7. <u>I</u>	8. <u>L</u>	9. <u>D</u>	10. <u>1</u>	11. <u>45</u>	12. <u>1</u>	13. <u>2</u>	14. <u>00</u>
2nd	15. ____	16. ____	17. ____	18. ____	19. ____	20. ____	21. ____	22. ____	23. ____	24. ____
3rd	25. ____	26. ____	27. ____	28. ____	29. ____	30. ____	31. ____	32. ____	33. ____	34. ____
4th	35. ____	36. ____	37. ____	38. ____	39. ____	40. ____	41. ____	42. ____	43. ____	44. ____
5th	45. ____	46. ____	47. ____	48. ____	49. ____	50. ____	51. ____	52. ____	53. ____	54. ____
6th	55. ____	56. ____	57. ____	58. ____	59. ____	60. ____	61. ____	62. ____	63. ____	64. ____
7th	65. ____	66. ____	67. ____	68. ____	69. ____	70. ____	71. ____	72. ____	73. ____	74. ____
8th	75. ____	76. ____	77. ____	78. ____	79. ____	80. ____	81. ____	82. ____	83. ____	84. ____
9th	85. ____	86. ____	87. ____	88. ____	89. ____	90. ____	91. ____	92. ____	93. ____	94. ____
10th	95. ____	96. ____	97. ____	98. ____	99. ____	100. ____	101. ____	102. ____	103. ____	104. ____

**SOURCE OF INJURY DATA****OFFICIAL**

- (1) Autopsy records with or without hospital medical records
- (2) Hospital medical records other than emergency room (eg. discharge summary)
- (3) Emergency room records only (including associated X-rays or other lab reports)
- (4) Private physician, walk-in or emergency clinic

**UNOFFICIAL**

- (5) Lay coroner report
- (6) E.M.S. personnel
- (7) Interviewee
- (8) Other source (specify): \_\_\_\_\_
- (9) Police

**INJURY SOURCE****FRONT**

- (01) Windshield
- (02) Mirror
- (03) Sunvisor
- (04) Steering wheel rim
- (06) Steering wheel hub/spoke
- (08) Steering wheel (combination of codes 04 and 05)
- (07) Steering column, transmission selector lever, other attachment
- (08) Add-on equipment (e.g., CB, tape deck, air conditioner)
- (08) Left instrument panel and below
- (10) Center instrument panel and below
- (11) Right instrument panel and below
- (12) Glove compartment door
- (13) Knee bolster
- (14) Windshield including one or more of the following: front header, A-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (15) Windshield including one or more of the following: front header, A-pillar, instrument panel, or mirror (passenger side only)
- (16) Other front object (specify): \_\_\_\_\_

**LEFT SIDE**

- (20) Left side interior surface, excluding hardware or armrests
- (21) Left side hardware or armrest
- (22) Left A pillar
- (23) Left B pillar
- (24) Other left pillar (specify): \_\_\_\_\_
- (25) Left side window glass or frame

- (26) Left side window glass including one or more of the following: frame, window sill, A-pillar, B-pillar, or roof side rail
- (27) Other left side object (specify): \_\_\_\_\_

**RIGHT SIDE**

- (30) Right side interior surface, excluding hardware or armrests
- (31) Right side hardware or armrest
- (32) Right A pillar
- (33) Right B pillar
- (34) Other right pillar (specify): \_\_\_\_\_
- (35) Right side window glass or frame
- (36) Right side window glass including one or more of the following: frame, window sill, A-pillar, B-pillar, roof side rail
- (37) Other right side object (specify): \_\_\_\_\_

**INTERIOR**

- (40) Seat, back support
- (41) Belt restraint webbing/buckle
- (42) Belt restraint B-pillar attachment point
- (43) Other restraint system component (specify): \_\_\_\_\_
- (44) Head restraint system
- (45) Air bag
- (46) Other occupants (specify): \_\_\_\_\_
- (47) Interior loose objects
- (48) Child safety seat (specify): \_\_\_\_\_
- (49) Other interior object (specify): \_\_\_\_\_

**ROOF**

- (50) Front header
- (51) Rear header
- (52) Roof left side rail
- (53) Roof right side rail
- (54) Roof or convertible top

**FLOOR**

- (56) Floor including toe pan
- (57) Floor or console mounted transmission lever, including console
- (58) Parking brake handle
- (59) Foot controls including parking brake

**REAR**

- (60) Backlight (rear window)
- (61) Backlight storage rack, door, etc.
- (62) Other rear object (specify): \_\_\_\_\_

**EXTERIOR OF OCCUPANT'S VEHICLE**

- (65) Hood
- (66) Outside hardware (e.g., outside mirror, antenna)
- (67) Other exterior surface or tires (specify): \_\_\_\_\_
- (68) Unknown exterior objects

**EXTERIOR OF OTHER MOTOR VEHICLE**

- (70) Front bumper
- (71) Hood edge
- (72) Other front of vehicle (specify): \_\_\_\_\_
- (73) Hood
- (74) Hood ornament
- (75) Windshield, roof rail, A-pillar
- (76) Side surface
- (77) Side mirrors
- (78) Other side protrusions (specify): \_\_\_\_\_
- (79) Rear surface
- (80) Undercarriage
- (81) Tires and wheels
- (82) Other exterior of other motor vehicle (specify): \_\_\_\_\_

**OTHER VEHICLE OR OBJECT IN THE ENVIRONMENT**

- (83) Unknown exterior of other motor vehicle
- (84) Ground
- (85) Other vehicle or object (specify): \_\_\_\_\_
- (86) Unknown vehicle or object
- (90) Fire in vehicle
- (91) Flying glass
- (92) Other noncontact injury source (specify): \_\_\_\_\_
- (97) Injured, unknown source

**INJURY SOURCE CONFIDENCE LEVEL**

- (1) Certain
- (2) Probable
- (3) Possible
- (9) Unknown

**DIRECT/INDIRECT INJURY**

- (1) Direct contact injury
- (2) Indirect contact injury
- (3) Noncontact injury
- (7) Injured, unknown source

**OCCUPANT INJURY CLASSIFICATION****O.I.C. Body Region**

- (M) Abdomen
- (K) Ankle-foot
- (A) Arm (upper)
- (B) Back-thoracolumbar spine
- (C) Chest
- (E) Elbow
- (F) Face
- (R) Forearm
- (H) Head-skull
- (U) Injured, unknown region
- (K) Knee
- (L) Leg (lower)
- (Y) Lower limb(s) (whole or unknown part)
- (N) Neck-cervical spine
- (P) Pelvic-hip
- (S) Shoulder
- (T) Thigh
- (Q) Upper limb(s) (whole or unknown part)
- (O) Whole body

**(W) Wrist-hand****Aspect of Injury**

- (A) Anterior-front
- (B) Bilateral (rib fracture only)
- (C) Central
- (V) Inferior-lower
- (U) Injured, unknown aspect
- (L) Left
- (P) Posterior-back
- (R) Right
- (S) Superior-upper
- (W) Whole region

**Lesion**

- (A) Abrasion
- (M) Amputation
- (V) Avulsion
- (B) Burn
- (K) Concussion
- (C) Contusion
- (N) Crush

- (G) Detachment, separation
- (D) Dislocation
- (F) Fracture
- (Z) Fracture and dislocation
- (U) Injured, unknown lesion
- (L) Laceration
- (O) Other
- (P) Perforation, puncture
- (R) Rupture
- (S) Sprain
- (T) Strain
- (E) Total severance, transection

**System/Organ**

- (W) All systems in region
- (A) Arteries-veins
- (B) Brain
- (D) Digestive
- (E) Ears
- (O) Eye
- (H) Heart
- (U) Injured, unknown system

- (I) Integumentary
- (J) Joints
- (K) Kidneys
- (L) Liver
- (M) Muscles
- (N) Nervous system
- (P) Pulmonary-lungs
- (R) Respiratory
- (S) Skeletal
- (C) Spinal cord
- (Q) Spleen
- (T) Thyroid, other endocrine gland
- (G) Urogenital
- (V) Vertebrae

**Abbreviated Injury Scale**

- (1) Minor injury
- (2) Moderate injury
- (3) Serious injury
- (4) Severe injury
- (5) Critical injury
- (6) Maximum (untreatable)
- (7) Injured, unknown severity



U.S. Department of Transportation  
National Highway Traffic Safety  
Administration

## GENERAL VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number

NCST

2. Case Number—Stratum

90-02

3. Vehicle Number

02

## VEHICLE IDENTIFICATION

4. Vehicle Model Year

79

Code the last two digits of the model year  
(99) Unknown

5. Vehicle Make (specify):

22PONTIAC

Applicable codes are found in your  
NASS CDS Data Collection, Coding, and  
Editing Manual.  
(99) Unknown

6. Vehicle Model (specify):

010GRAND PRIX

Applicable codes are found in your  
NASS CDS Data Collection, Coding, and  
Editing Manual.  
(99) Unknown

7. Body Type

02

Note: Applicable codes are found on  
the back of this page.

8. Vehicle Identification Number

2J37Y9P [REDACTED]

Left justify; Slash zeros and letter Z (0 and Z)  
No VIN—Code all zeros  
Unknown—Code all nine's

## OFFICIAL RECORDS

9. Police Reported Vehicle Disposition

0

- (0) Not towed due to vehicle damage  
(1) Towed due to vehicle damage  
(9) Unknown

10. Police Reported Travel Speed

99

Code to the nearest mph (NOTE: 00 means  
less than 0.5 mph)  
(97) 96.5 mph and above  
(99) Unknown

11. Police Reported Alcohol or Drug Presence

0

- (0) Neither alcohol nor drugs present  
(1) Yes (alcohol present)  
(2) Yes (drugs present)  
(3) Yes (alcohol and drugs present)  
(4) Yes (alcohol or drugs present—specifics  
unknown)  
(7) Not reported  
(8) No driver present  
(9) Unknown

12. Alcohol Test Result for Driver

96

- Code actual value (decimal implied before  
first digit—0.xx)  
(95) Test refused  
(96) None given  
(97) AC test performed, results unknown  
(98) No driver present  
(99) Unknown

Source \_\_\_\_\_

## ACCIDENT RELATED

13. Speed Limit

30

- (00) No statutory limit  
Code posted or statutory speed limit  
(99) Unknown

14. Attempted Avoidance Maneuver

01

- (00) No impact  
(01) No avoidance actions  
(02) Braking (no lockup)  
(03) Braking (lockup)  
(04) Braking (lockup unknown)  
(05) Releasing brakes  
(06) Steering left  
(07) Steering right  
(08) Braking and steering left  
(09) Braking and steering right  
(10) Accelerating  
(11) Accelerating and steering left  
(12) Accelerating and steering right  
(97) No driver present  
(98) Other action (specify):

(99) Unknown

15. Accident Type

89

Applicable codes may be found on the back  
of page two of this field form  
(00) No impact  
Code the number of the diagram that  
best describes the accident circumstance  
(98) Other accident type (specify):

(99) Unknown

\*\*\*\* STOP HERE IF GV07 DOES NOT EQUAL 01-49 \*\*\*\*



## National Accident Sampling System—Crashworthiness Data System: General Vehicle Form

Page 2

**OCCUPANT RELATED**16. Driver Presence in Vehicle 1

- (0) Driver not present  
(1) Driver present  
(9) Unknown

17. Number of Occupants This Vehicle 02  
(00-96) Code actual number of occupants  
for this vehicle  
(97) 97 or more  
(99) Unknown

18. Number of Occupant Forms Submitted 00

**VEHICLE WEIGHT ITEMS**

19. Vehicle Curb Weight 03,200  
3247 Code weight to nearest  
100 pounds.  
(010) Less than 1050 pounds  
(135) 13,500 lbs or more  
(999) Unknown

Source: [REDACTED]

20. Vehicle Cargo Weight 0000  
0 Code weight to nearest  
100 pounds.  
(00) Less than 50 pounds  
(97) 9,650 lbs or more  
(99) Unknown

**RECONSTRUCTION DATA**

21. Towed Trailing Unit 0  
(0) No towed unit  
(1) Yes—towed trailing unit  
(9) Unknown

22. Documentation of Trajectory Data  
for This Vehicle 0  
(0) No  
(1) Yes

23. Post Collision Condition of Tree or Pole  
(for Highest Delta V) 0  
(0) Not collision (for highest delta V) with  
tree or pole  
(1) Not damaged  
(2) Cracked/sheared  
(3) Tilted <45 degrees  
(4) Tilted ≥45 degrees  
(5) Uprooted tree  
(6) Separated pole from base  
(7) Pole replaced  
(8) Other (specify):  
\_\_\_\_\_  
(9) Unknown

24. Rollover 0

(0) No rollover (no overturning)

Rollover (primarily about the longitudinal axis)

- (1) Rollover, 1 quarter turn only  
(2) Rollover, 2 quarter turns  
(3) Rollover, 3 quarter turns  
(4) Rollover, 4 or more quarter turns (specify):  
\_\_\_\_\_

(5) Rollover—end-over-end (i.e., primarily  
about the lateral axis)

(9) Rollover (overturn), details unknown

**OVERRIDE/UNDERRIDE (THIS VEHICLE)**25. Front Override/Underride (this vehicle) 026. Rear Override/Underride (this vehicle) 0(0) No override/underride, or  
not an end-to-end impact

Override (see specific CDC)

- (1) 1st CDC  
(2) 2nd CDC  
(3) Other not automated CDC (specify):  
\_\_\_\_\_

Underride (see specific CDC)

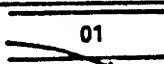
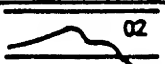
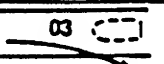
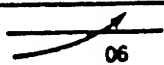

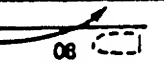
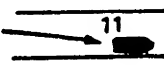


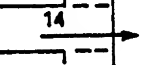
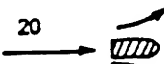
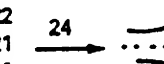
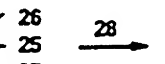
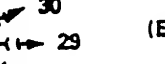
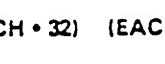
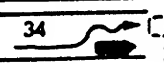
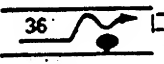

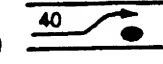
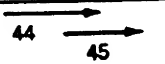
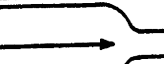
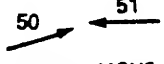



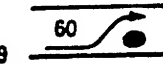




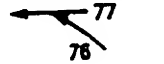

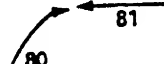

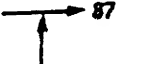
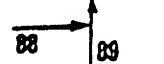
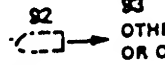
- (4) 1st CDC  
(5) 2nd CDC  
(6) Other not automated CDC (specify):  
\_\_\_\_\_

(7) Medium/heavy truck override  
(9) Unknown

**HEADING ANGLE AT IMPACT FOR  
HIGHEST DELTA V**

Values: (000)-(359) Code actual value  
(997) Noncollision  
(998) Impact with object  
(999) Unknown

27. Heading Angle for This Vehicle 27028. Heading Angle for Other Vehicle 360

Category	Configuration	ACCIDENT TYPES (Includes Intent)				
I Single Driver	A. Right Roadside Departure	 01 DRIVE OFF ROAD	 02 CONTROL/ TRACTION LOSS	 03 AVOID COLLISION WITH VEH., PED., ANIM.	04 SPECIFICS OTHER	05 SPECIFICS UNKNOWN
	B. Left Roadside Departure	 06 DRIVE OFF ROAD	 07 CONTROL/ TRACTION LOSS	 08 AVOID COLLISION WITH VEH., PED., ANIM.	09 SPECIFICS OTHER	10 SPECIFICS UNKNOWN
	C. Forward Impact	 11 PARKED VEH.	 12 STA. OBJECT	 13 PEDESTRIAN/ ANIMAL	 14 END DEPARTURE	15 SPECIFICS OTHER 16 SPECIFICS UNKNOWN
II Same Trafficway Same Direction	D. Rear-End	 20 STOPPED 21, 22, 23	 22 SLOWER 24, 25, 26, 27	 26 DECEL. 28, 29, 30, 31	 30 SPECIFICS OTHER	 31 SPECIFICS UNKNOWN
	E. Forward Impact	 34 CONTROL/ TRACTION LOSS	 36 CONTROL/ TRACTION LOSS	 38 AVOID COLLISION WITH VEH.	 40 AVOID COLLISION WITH OBJECT	(EACH • 32) SPECIFICS OTHER (EACH • 33) SPECIFICS UNKNOWN
	F. Sideswipe Angle	 44 45	 46 45 47	(EACH • 48) SPECIFICS OTHER	(EACH • 49) SPECIFICS UNKNOWN	
III Same Trafficway Opposite Direction	G. Head-On	 50 LATERAL MOVE	(EACH • 52) SPECIFICS OTHER	(EACH • 53) SPECIFICS UNKNOWN		
	H. Forward Impact	 54 CONTROL/ TRACTION LOSS	 56 CONTROL/ TRACTION LOSS	 58 AVOID COLLISION WITH VEH.	 60 AVOID COLLISION WITH OBJECT	(EACH • 62) SPECIFICS OTHER (EACH • 63) SPECIFICS UNKNOWN
	I. Sideswipe Angle	 64 LATERAL MOVE	(EACH • 66) SPECIFICS OTHER	(EACH • 67) SPECIFICS UNKNOWN		
IV. Change Trafficway Vehicle Turning	J. Turn Across Path	 68 INITIAL OPPOSITE DIRECTIONS	 70 INITIAL SAME DIRECTIONS	 72	(EACH • 74) SPECIFICS OTHER	(EACH • 75) SPECIFICS UNKNOWN
	K. Turn Into Path	 77 TURN INTO SAME DIRECTION	 79 TURN INTO OPPOSITE DIRECTIONS	 81	 83	(EACH • 84) SPECIFICS OTHER (EACH • 85) SPECIFICS UNKNOWN
V. Intersecting Paths (Vehicle Damage)	L. Straight Paths	 87 88	 89	(EACH • 90) SPECIFICS OTHER	(EACH • 91) SPECIFICS UNKNOWN	
VI. Miscellaneous	M. Backing Etc.	 92 BACKING VEH.	93 OTHER VEH. OR OBJECT	98 Other Accident Type 99 Unknown Accident Type 00 No Impact		

## National Accident Sampling System - Crashworthiness Data System: General Vehicle Form

Page 3

## 29. Basis for Total Delta V (Highest)

1

## Delta V Calculated

- (1) CRASH program - damage only routine
- (2) CRASH program - damage and trajectory routine
- (3) Missing vehicle algorithm

## Delta V Not Calculated

- (4) At least one vehicle (which may be this vehicle) is beyond the scope of an acceptable reconstruction program, regardless of collision conditions.
- (5) All vehicles within scope (CDC applicable) of CRASH program but one of the collision conditions is beyond the scope of the CRASH program or other acceptable reconstruction techniques, regardless of adequacy of damage data.
- (6) All vehicles and collision conditions are within scope of one of the acceptable reconstruction programs, but there is insufficient data available.

**COMPUTER GENERATED DELTA V**

Secondary Highest

## 30. Total Delta V

109.5 Nearest mph

(NOTE: 00 means less than  
0.5 mph)  
(97) 96.5 mph and above  
(99) Unknown

## 31. Longitudinal Component of Delta V

+08-8.2 Nearest mph

(NOTE: 00 means greater than  
-0.5 and less than +0.5 mph)  
(± 97) ± 96.5 mph and above  
(— 99) Unknown

Secondary Highest

## 32. Lateral Component of Delta V

+054.8 Nearest mph

(NOTE: 00 means greater than  
-0.5 and less than +0.5 mph)  
(± 97) ± 96.5 mph and above  
(— 99) Unknown

## 33. Energy Absorption

019,00019023.0 Nearest 100 foot-lbs

(NOTE: 0000 means less than 50 Foot-Lbs)  
(9997) 999,650 foot-lbs or more  
(9999) Unknown

## 34. Confidence in Reconstruction Program Results (for Highest Delta V)

1

- (0) No reconstruction
- (1) Collision fits model - results appear reasonable
- (2) Collision fits model - results appear high
- (3) Collision fits model - results appear low
- (4) Borderline reconstruction - results appear reasonable

## 35. Type of Vehicle Inspection

1

- (0) No inspection
- (1) Complete inspection
- (2) Partial inspection (specify):

## 36. Is this an AOPS Vehicle?

0

- (0) No
- (1) Yes

\*\*\* STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT INSPECTED (I.E., GV35 = 0), \*\*\*  
DO NOT COMPLETE THE EXTERIOR AND INTERIOR VEHICLE FORMS.

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

## VEHICLE IDENTIFICATION

## LOCATOR

Specific Impact No.	Location of Direct Damage	Location of Field L	Location of Maximum Crush
1	LEFT SIDE		

Use as many lines/columns as necessary to describe each damage profile.

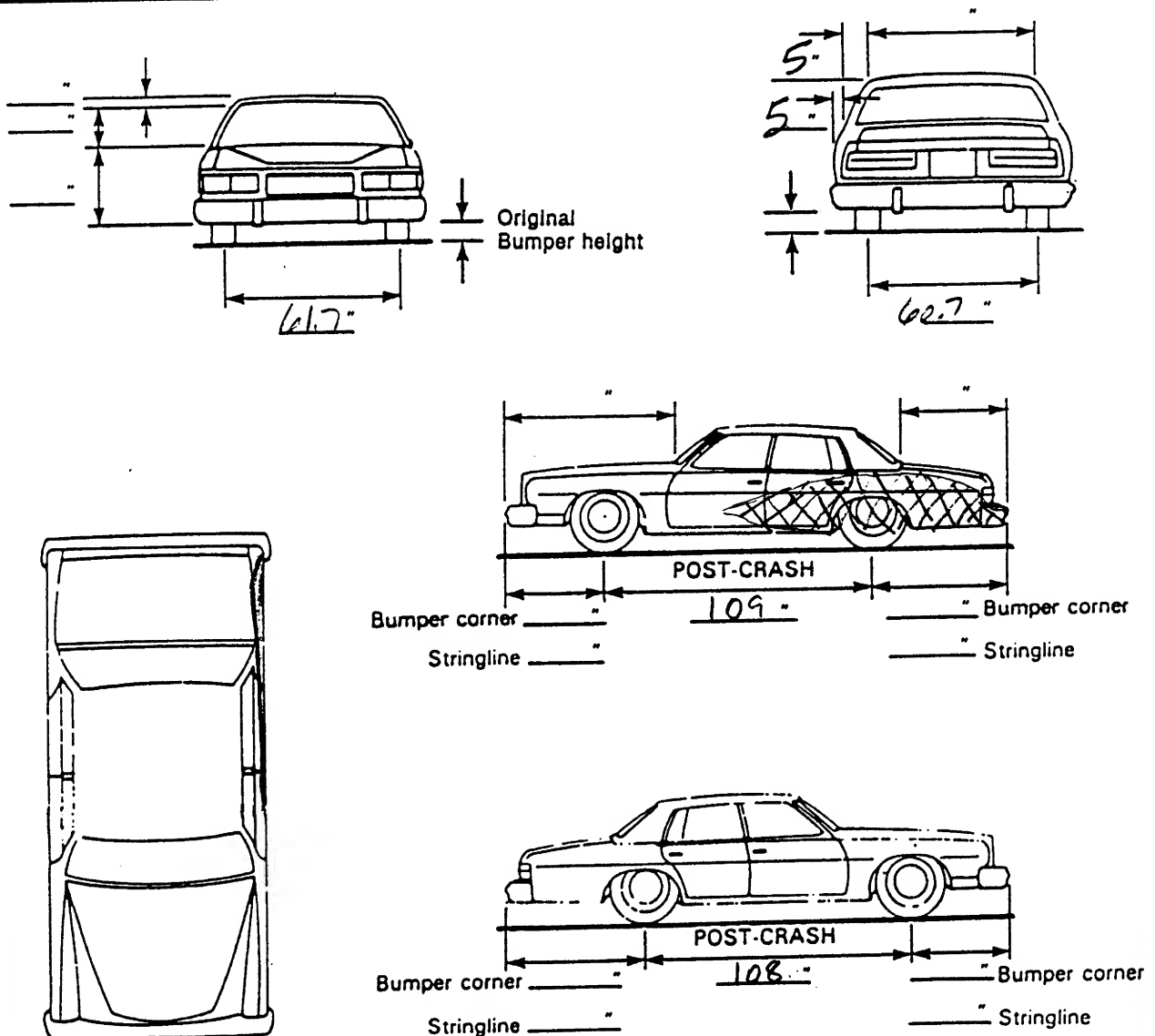
[illegible]

## National Accident Sampling System—Crashworthiness Data System: Exterior Vehicle Form

2

## VEHICLE DAMAGE SKETCH

<b>TIRE—WHEEL DAMAGE</b> a. Rotation physically restricted RF <u>2</u> LF <u>2</u> RR <u>2</u> LR <u>1</u> (1) Yes (2) No (8) NA (9) Unk.		<b>ORIGINAL SPECIFICATIONS</b> Wheelbase <u>108.1</u> Overall Length <u>201.4</u> Maximum Width <u>72.7</u> Curb Weight <u>3246</u> Average Track <u>61.2</u> Front Overhang <u>43.3</u> Rear Overhang <u>50.4</u> Engine Size: cyl./ displ. _____ Undeformed End Width _____		<b>WHEEL STEER ANGLES</b> (For locked front wheels or displaced rear axles only) RF ± _____° LF ± _____° RR ± <u>N/A</u> ° LR ± _____° Within ±5 degrees
<b>TYPE OF TRANSMISSION</b> <input type="checkbox"/> Manual <input checked="" type="checkbox"/> Automatic		<b>DRIVE WHEELS</b> <input type="checkbox"/> FWD <input checked="" type="checkbox"/> RWD <input type="checkbox"/> 4WD		
		Approximate Cargo Weight <u>0</u>		



NOTES: Sketch new perimeter and cross hatch direct damage and single hatch induced damage on all views. Annotate observations which might be useful in reconstructing the accident (e.g., grass in tire bead, direction of striations, scuff on sidewall, etc.). If pulling trailer, sketch type of trailer and damage received on the back of this page.

Annotate any damage caused by extrication such as component removal by torching, prying, or hydraulic shears.

CODES FOR OBJECT CONTACTED

(99) Unknown event or object

## National Accident Sampling System – Crashworthiness Data System: Exterior Vehicle Form

Page

**COLLISION DEFORMATION CLASSIFICATION**

## HIGHEST DELTA "V"

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force	(3) Deformation Location	(4) Specific Longitudinal or Lateral Location	(5) Specific Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
4. <u>01</u>	5. <u>01</u>	6. <u>11</u>	7. <u>L</u>	8. <u>Z</u>	9. <u>E</u>	10. <u>W</u>	11. <u>02</u>

## Second Highest Delta "V"

12. <u>   </u>	13. <u>   </u>	14. <u>   </u>	15. <u>   </u>	16. <u>   </u>	17. <u>   </u>	18. <u>   </u>	19. <u>   </u>
----------------	----------------	----------------	----------------	----------------	----------------	----------------	----------------

**CRUSH PROFILE**

(The crush profile for the damage described in the CDC(s) above should be documented in the appropriate space below. ALL MEASUREMENTS ARE IN INCHES.)

## HIGHEST DELTA "V"

20. <u>L</u>	21. <u>C1</u>	<u>C2</u>	<u>C3</u>	<u>C4</u>	<u>C5</u>	<u>C6</u>	22. - - D
<u>115</u>	<u>00</u>	<u>01</u>	<u>02</u>	<u>06</u>	<u>01</u>	<u>00</u>	<u>0012</u>

## Second Highest Delta "V"

23. <u>L</u>	24. <u>C1</u>	<u>C2</u>	<u>C3</u>	<u>C4</u>	<u>C5</u>	<u>C6</u>	25. + - D
<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>

26. Are CDCs Documented but Not Coded on The Automated File  
(0) No  
(1) Yes

0

27. Researcher's Assessment of Vehicle Disposition  
(0) Not towed due to vehicle damage  
(1) Towed due to vehicle damage  
(9) Unknown

0

28. Original Wheelbase  
106 Code to the nearest tenth of an inch  
(9999) Unknown

108.1

\*\*\* STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT TOWED \*\*\*  
(I.E., GV09 = 0 OR 9), DO NOT COMPLETE THE INTERIOR VEHICLE FORM.

Appendix C  
Airbag Supplement



## ACCIDENT SUMMARY

ACCIDENT DATE 1/90

POLICE INVESTIGATED (1,2,9)\*

P.D.

City \_ \_ \_ \_ County \_ \_ \_

## GENERAL LOCALITY

- (1) Freeway, Limited Access  
(2) Urban (City)  
(3) Urban-Rural (mixed)  
(4) Rural, Fields

## CONFIGURATION (First Harm)

- (0) Struck Object or Pedestrian  
(1) Rear-End  
(2) Head-On  
(3) Rear-to-Rear  
(4) Angle  
(5) Sideswipe-Same Direction  
(6) Sideswipe-Opposite Direct.  
(7) NonCollision Fell from Veh  
(8) NonImpact Deployment  
(9) Unknown

FIRE INVOLVED (0) None

- (1) AirBag Vehicle  
(2) Other Vehicle  
(3) Both Vehicles  
(9) Unknown

NUMBER: VEHICLES INVOLVED

(8)=8 or more  
PERSONS INVOLVED

INJURED PERSONS

MAXIMUM AIS IN ACCIDENT

OTHER VEHICLE: MAXIMUM AIS

PRIME/DEPLOY IMPACT w AB VEH:  
EVENT NUMBERCDC 1 1 - 1 2 E W - 2

TOTAL DELTA-V

Model Year, Make, Model, Body Type:

1999 PONTIAC GRAND PRIX 2-Door

## AIRBAG VEHICLE INSPECTION

DATE VEH. INSPECTED 1/90

## REASON VEHICLE NOT INSPECTED

- (0) Not Required  
(1) Inspection Completed  
(2) Cannot be Located\*\*  
(3) Repaired or Destroyed\*\*  
(5) Refual or Impounded\*\*  
(7) Other\*  
\*\*Specify: \_\_\_\_\_

## IMPACT DATA OBTAINED

- (0) No Data Obtained  
(1) CDC Only  
(2) Crush Profile Only  
(3) Trajectory Data Only  
(4) CDC and Crush Profile  
(5) CDC and Trajectory  
(6) Crush and Trajectory  
(7) CDC, Crush & Trajectory

## BASIS OF DELTA-V

- (0) Not Computed (Unknown Why)  
(1) CRASH - Damage Only  
(2) CRASH - Damage+Trajectory  
(3) Missing Vehicle Algorithm  
(4) Yielding Object Algorithm  
(5) Unknown Basis  
(6) One Vehicle Beyond Scope  
(7) Collision Beyond Scope  
(8) Insufficient Data

## VEHICLE HISTORY

HAS AIRBAG VEHICLE BEEN IN  
ANY PRIOR IMPACTS (1,2,9)\*HAS ANY PRIOR MAINTENANCE/SERVICE  
BEEN PERFORMED ON SYSTEM(1,2,9)\*

\*Describe: \_\_\_\_\_

AIRBAG VEHICLE: FLEET RENT-A-CARVIN 1-2-3-4-5-6-7-8-9-0MILEAGE 2277

SYSTEM READINESS LAMP  
(In Instrument Cluster)

PRE-IMPACT LAMP CONDITION

- (1) Functioning/ProvedOut
- (2) Inoperative
- (9) Unknown

DRIVER'S REPORT OF  
PRE-IMPACT FLASHING

- (00) No Flashing Reported
- (01) Continuous Flashing
- (02) --- >Number of Flashes
- (11)
- (12) Constant Light
- (19) Flashing, Unkn Number
- (88) Not App (system removed)
- (99) Unknown

PERIOD OF PRE-IMPACT FLASHING

- (0) No Flashing
- (1) Same Day as Impact
- (2) Prior Day
- (3) Prior Two Days
- (4) Prior Week
- (5) Prior Month
- (6) Over One Month
- (9) Unknown

POST-IMPACT LAMP CONDITION

- (1) Functioning/ProvedOut
- (2) Inoperative
- (9) Unknown

POST-IMPACT FLASHING

- (00) No Flashing
- (01) Continuous Flashing
- (02) -- >Number of Flashes
- (11)
- (12) Constant Light
- (19) Flashing, Unkn Number
- (88) Not Appl (removed)
- (99) Unknown

AIRBAG VEHICLE  
FIRST HARMFUL EVENT

13

- (01) Fire or explosion
- (02) Immersion
- (03) Gas Inhalation
- (04) Fell from vehicle
- (05) Injured in vehicle
- (06) Other noncollision (specify):
- (07) Overturn
- (08) Jackknife with intraunit damage
- Collision With:
- (09) Pedestrian
- (10) Pedalcyclist
- (11) Railway train
- (12) Animal
- (13) Motor vehicle in transport (same roadway)
- (14) Motor vehicle in transport (other roadway)
- (15) Parked motor vehicle
- (16) Other type nonmotorist (specify):
- (17) Thrown or falling object
- (18) Boulder
- Collision with Fixed Object:
- (20) Building
- (21) Impact attenuator/Crash Cushion
- (22) Bridge pier or abutment
- (23) Bridge parapet end
- (24) Bridge rail
- (25) Guardrail
- (26) Concrete traffic barrier
- (27) Median barrier
- (28) Other longitudinal barrier (specify):
- (29) Highway/Traffic sign post
- (30) Overhead sign support
- (31) Luminaire/Light support
- (32) Utility pole
- (33) Other post. pole, or support (specify):
- (34) Culvert
- (35) Curb
- (36) Ditch
- (37) Embankment-earth
- (38) Embankment-rock, stone or concrete
- (39) Fence (wooden, wire, chain link, etc.)
- (40) Wall (stone, rock, metal, etc.)
- (41) Fire hydrant
- (42) Shrubbery
- (43) Tree
- (44) Other fixed object (specify):
- (45) Pavement surface irregularity (pothole, grooved, grades)
- (99) Unknown

## AIRBAG VEHICLE IMPACT SUMMARY

## VEHICLE ROLE

- (0) Non-collision  
 (1) Striking Unit  
 (2) Struck Unit  
 (3) Both Striking and Struck  
 (9) Unknown

## MANNER OF LEAVING SCENE

- (1) Driven  
 (2) Towed-due to damage  
 (3) Towed - not for damage  
 (4) Towed - details unknown  
 (5) Abandoned  
 (9) Unknown

## NUMBER OF IMPACT EVENTS

- (8) 8 or more, (9) Unknown

## ROLLOVER (0) No Rollover

- (1) First Event  
 (2) Subsequent Event  
 (3) Yes, Unknown Event  
 (9) Unknown

## OVERRIDE/UNDERRIDE

- (1) No over/underride  
 (1) Override - 1st CDC  
 (3) - Other CDC  
 (4) Underride - 1st CDC  
 (6) - Other CDC  
 (9) Unknown

## AIRBAG VEHICLE DAMAGE

- CODES: (1) Yes, DAMAGED  
 (2) No Damage  
 (9) Unknown

## LEFT FRONT FENDER DAMAGE

## RIGHT FRONT FENDER DAMAGE

## CENTER TOP OF GRILLE DAMAGE

## FRONT BUMPER E.A. STATUS: Left

Right

- (1) Normal  
 (2) Extended  
 (3) Partial Compression  
 (4) Complete Compression  
 (5) Not Applicable  
 (9) Unknown

## FIRST AIRBAG VEHICLE IMPACT:

## CONFIGURATION

- (0) Struck Object or Pedestrian  
 (1) Rear-End  
 (2) Head-On  
 (3) Rear-to-Rear  
 (4) Angle  
 (5) Sideswipe - Same Direction  
 (6) Sideswipe-Opposite Direct.  
 (7) NonColl:eg Fell from Veh  
 (8) NonImpact Deployment  
 (9) Unknown

CDC \_\_\_\_\_

OBJECT CONTACTED: \_\_\_\_\_

## PRIMARY/DEPLOYMENT IMPACT:

## EVENT NUMBER

## TOTAL DELTA-V

## LONGITUDINAL DELTA-V

## CONFIGURATION

- (0) Struck Object or Pedestrian  
 (1) Rear-End  
 (2) Head-On  
 (3) Rear-to-Rear  
 (4) Angle  
 (5) Sideswipe - Same Direction  
 (6) Sideswipe-Opposite Direct.  
 (7) NonColl:eg Fell from Veh  
 (8) NonImpact Deployment  
 (9) Unknown

CDC 02 - E D E W - 1OBJECT CONTACTED: 79 GRAND PRIX

## NOTES:

## AIRBAG SYSTEM DAMAGE

CODES: (1) Yes, Damaged\*  
 (2) No, Intact  
 (8) Not App. (Removed)  
 (9) Unknown

## AIRBAG MODULE

SENSORS: Left Front

Center Front

Right Front

Rear, Cowl

## DIAGNOSTIC MODULE

## WIRING

## KNEE DIVERter

INDICATION OF DISCONNECTED  
 OR LOOSE ELECTRICAL  
 CONNECTORS

## CONDITION OF DEPLOYED BAG

(1) Bag Intact  
 (2) Split or Torn\*  
 (3) Cut by Object in Impact\*  
 (4) Cut after Accident\*  
 (5) Other (e.g., burned)\*  
 (8) N/A (not deployed)  
 (9) Unknown

\*DESCRIBE System and Bag Damage:

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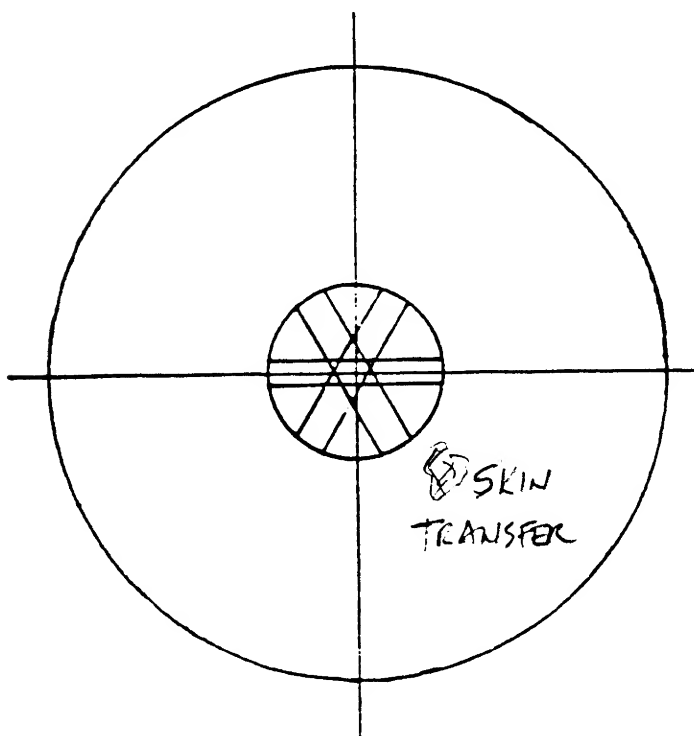


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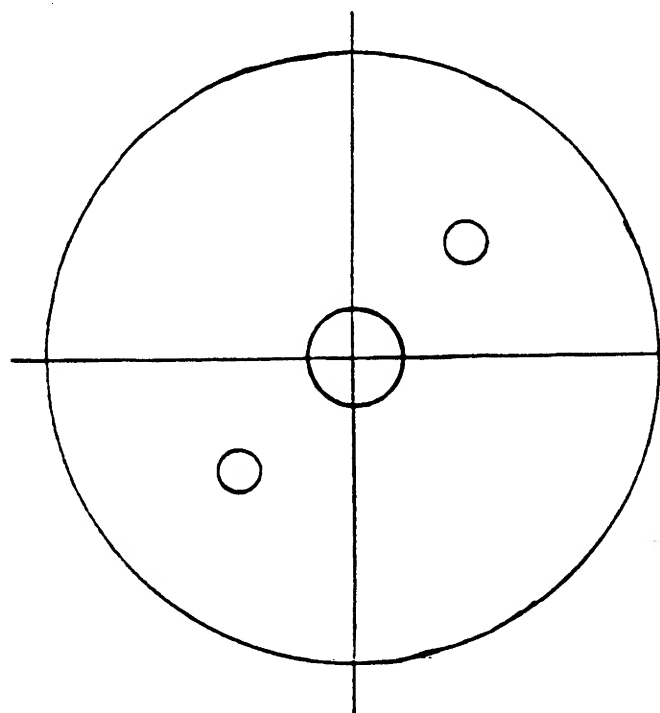
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NOTE DAMAGE AND CONTACT MARKS ON AIRBAG DIAGRAMS BELOW:



FRONT

TOP



BOTTOM

BACK

OCCUPANTS of AIRBAG CAR		NOTES:	
NUMBER OF OCCUPANTS IN VEHICLE (8) 8 or more	<u>1</u>		
NUMBER OF INJURED PERSONS	<u>1</u>		
MAXIMUM AIS IN AIRBAG VEHICLE (0) No Injury (1-6) AIS Severity (7) Injured, Unknown Severity (9) Unknown	<u>1</u>		
DRIVER AGE <u>19</u> SEX <u>F</u>			
NUMBER OF DRIVER INJURIES	<u>1</u>		
SOURCE OF BEST INJURY DATA	<u>7</u>		
(0) Not Injured (1) Autopsy w/wo med. records (2) Hospital Medical Records (3) Emergency Room only (4) Private physician, Clinic (5) Lay Coroner Report (6) EMS Personnel (7) Interviewee (8) Police (9) Unknown			
-----			
MAXIMUM AIS BY BODY REGION			
REGION	MAX AIS		CONTACT
Head/Neck/Face	<u>1</u>		<u>45</u>
Chest	<u>0</u>		— —
Abdomen	<u>0</u>		— —
Leg/Hips	<u>0</u>	— —	
Other (Arms)	<u>0</u>	— —	
DRIVER MAXIMUM	<u>1</u>	<u>45</u>	
-----			
EJECTION: Extent <u>N/A</u>			
Portal _____			

DRIVER BELT USAGE: (1) Used (2) Not Used (9) Unknown 2

Evidence: \_\_\_\_\_  
\_\_\_\_\_

DRIVER POSTURE: Any Comments Recorded (1) Yes, (2) No 2

Describe driver's posture and position on seat including specific comments on head, torso, buttocks, legs and feet. Also note hand and arm position. Did driver brace before crash? Describe:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DRIVER FOREIGN OBJECTS: Comments Recorded (1) Yes, (2) No 2

Was driver wearing contact lenses or eyeglasses? Or holding any foreign object at the time of the impact (packages on lap, pipe, food, bottle, cigarette, etc.)? Did any lenses, objects, or jewelry play any role?:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DRIVER COMMENTS: Comments Recorded (1) Yes, (2) No 2

Was the driver aware that the vehicle was equipped with a supplemental restraint system? Did driver offer any comments on smoke, noise, etc.? Did the driver comment on the airbag as a restraint system? Describe:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

PASSENGER-AIRBAG CONTACT (1) Yes, (2) No, (9) Unknown 2

Describe: \_\_\_\_\_  
\_\_\_\_\_

## Appendix D

### EDCRASH Printout

ENGINEERING DYNAMICS CORPORATION  
NCSI 90-02

Date [REDACTED] Time [REDACTED]

WARNING MESSAGES: NO MESSAGES

VEHICLE # 1

IMPACT SPEED MPH		SPEED CHANGE MPH			BASIS OF RESULTS
FWD	LAT	TOTAL	LONG.	LATERAL	
0.0	0.0	0.0	0.0	0.0	SPINOUT TRAJECTORIES AND CONSERVATION OF LINEAR MOMENTUM
0.0	0.0	0.0	0.0	0.0	SPINOUT TRAJECTORIES AND DAMAGE
		11.1	-5.5	-9.6	DAMAGE DATA ONLY

VEHICLE # 2

IMPACT SPEED MPH		SPEED CHANGE MPH			BASIS OF RESULTS
FWD	LAT	TOTAL	LONG.	LATERAL	
0.0	0.0	0.0	0.0	0.0	SPINOUT TRAJECTORIES AND CONSERVATION OF LINEAR MOMENTUM
0.0	0.0	0.0	0.0	0.0	SPINOUT TRAJECTORIES AND DAMAGE
		9.5	-8.2	4.8	DAMAGE DATA ONLY



## SUMMARY OF DAMAGE DATA

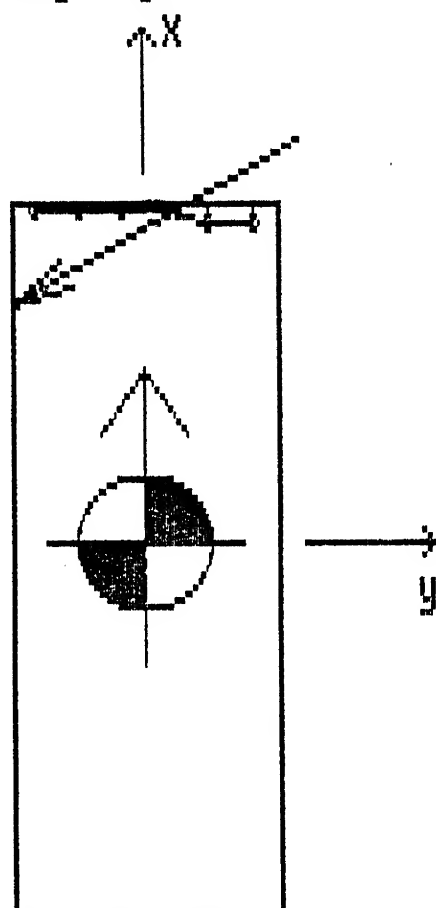
NOTE: '\*\*' indicates default value

	VEHICLE #1	VEHICLE #2
CLASS (SIZE) CATEGORY	2	3
WEIGHT	2914.0 LBS.	3397.0 LBS.
DOC	02FDEW1	11LZEW2
DAMAGE WIDTH	55.0 IN.	115.0 IN.
CRUSH DEPTH 1	1.0 IN.	0.0 IN.
CRUSH DEPTH 2	1.2 IN.	2.0 IN.
CRUSH DEPTH 3	1.6 IN.	4.0 IN.
CRUSH DEPTH 4	1.8 IN.	6.0 IN.
CRUSH DEPTH 5	3.8 IN.	0.8 IN.
CRUSH DEPTH 6	4.2 IN.	0.0 IN.
DAMAGE MIDPOINT OFFSET	0.0 IN.	-12.0 IN.
DAMAGE ENERGY	25521.7 FT.-LB.	19023.0 FT.-LB.
MAGNITUDE OF PRINCIPAL FORCE	50180.3 LB.	73327.6 LB.
DIRECTION OF PRINCIPAL FORCE	60.0 DEG. **	-30.1 DEG. **
MOMENT ARM OF PRINCIPAL FORCE	-67.2 IN.	-36.5 IN.
DAMAGE CENTROID	7.5 IN.	-13.4 IN.

## DIMENSIONAL, INERTIAL AND TIRE/ROAD PROPERTIES

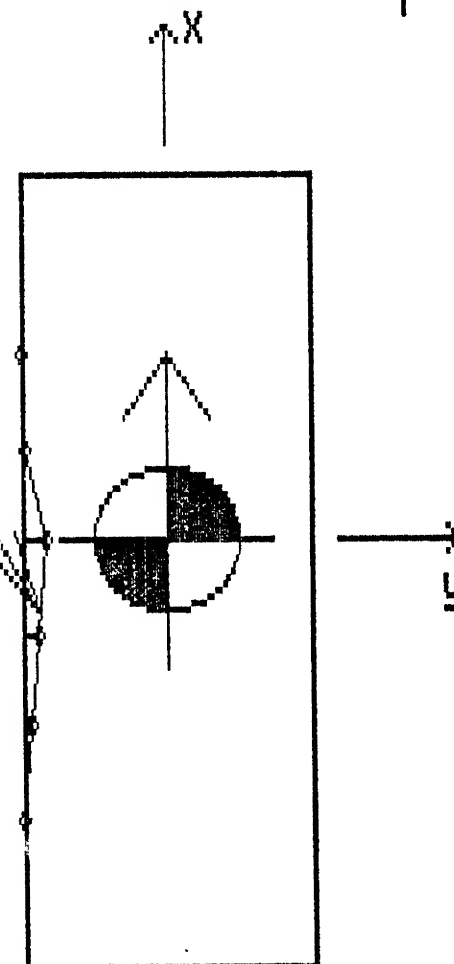
	VEHICLE #1	VEHICLE #2
CG TO FRONT AXLE	46.3 IN.	51.3 IN.
CG TO REAR AXLE	50.1 IN.	55.5 IN.
TRACK WIDTH	54.6 IN.	58.9 IN.
RAW MOMENT OF INERTIA	22254.7 LB-SEC <sup>2</sup> -IN	29222.6 LB-SEC <sup>2</sup> -IN
MASS	7.5 LB-SEC <sup>2</sup> /IN	8.8 LB-SEC <sup>2</sup> /IN
BODY LENGTH FROM CG TO FRONT	83.3 IN.	89.8 IN.
BODY LENGTH FROM CG TO REAR	-91.6 IN.	-106.4 IN.
BODY WIDTH	67.2 IN.	72.6 IN.

1990 Dodge Spirit



CDC/PDOF: 02FDEW1 60.0 deg  
Max. Impact Force: 50180 lb

1979 Pontiac Grand Prix +



CDC/PDOF: 11LZEW2 -30.1 deg  
Max. Impact Force: 73328 lb



EDCRASH  
Damage Profiles

	Veh #1	Veh #2
Delta-V (mph):		
X	-5.5	-8.2
Y	-9.6	4.8
Tot	11.1	9.5

Crush Data (in):		
W	55.0	115.0
D	0.0	-12.0
C1	1.0	0.0
C2	1.2	2.0
C3	1.6	4.0
C4	1.8	6.0
C5	3.8	0.8
C6	4.2	0.0